

# Consumers' Research Bulletin



## May 1950

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# CONSUMERS' RESEARCH

Vol. 25 • No. 5

## BULLETIN

May 1950

### Off the Editor's Chest

ONE of the most interesting jobs at Consumers' Research is opening the mail. There is no lack of volunteer help when someone who is regularly assigned to the duty is ill or on vacation. Those who normally work at other tasks are always glad to pinch-hit with the incoming mail, for the letters we receive in large numbers are lively, stimulating, and often bring useful information and helpful suggestions. The opening of a Monday morning's large week-end mail is the equivalent of attendance at a technical conference of engineers, chemists, physicists, and other experts, reinforced with the practical experience and advice of many homemakers and householders based upon their experiences with particular appliances and other products.

The answering of this great volume of incoming mail is no mean problem. An audio engineer may contribute a suggestion regarding CR's circuit for a high-fidelity radio amplifier which will call for a discussion among members of the technical staff that will take several hours to resolve the difficulty or evaluate the contribution. The time will be well spent if it contributes an improvement to the circuit, but there is still the matter of formulating the group's conclusions, dictating an answer, and checking the letter of reply. Multiply this

procedure by just one equally important letter each on automobiles, refrigerators, television, and photographic problems, and it is easy to see that on some days when the mail is especially heavy our technical staff could devote its entire time to the consideration of correspondence, neglecting new tests to be carried out, and failing to write up new test reports for the next issue of CONSUMERS' RESEARCH BULLETIN, or to read proof and to check articles already written. Letters on technical problems are often very interesting to answer, but unfortunately they do not as a rule contribute usefully to the preparation of an article in CONSUMERS' RESEARCH BULLETIN, which is the service CR subscribers pay for.

Although we try to sandwich correspondence in between more pressing matters, so far as practicable, there comes a time when we are obliged to draw the line. That time is upon us now. For the next four months all of the editorial and technical staff will have their noses to the grindstone preparing the new *Annual Cumulative Bulletin*, in addition to getting out the regular monthly issues. We shall enjoy and profit by the reading of letters from subscribers, but in most cases (and only in cases where a stamped envelope is furnished) we

(Continued on page 15)

**Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization. Scientific and Technical Staff and Editors: F. J. Schlunk, R. Joyce, Dwight C. Aten, M. C. Phillips, Erma A. Hinek, and A. R. Greenleaf. Editorial Assistant: Mary F. Roberts and B. Beam.**

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's ratings; a quality judgment is independent of price; 49, 50—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

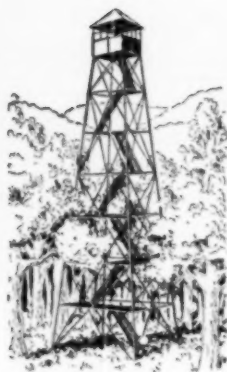
\*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

\*\*\*For a brief cumulative index of 1950 BULLETINS preceding this issue, see page 21.

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## *The Consumers' Observation Post*

GARBAGE COLLECTION, an unpleasant civic responsibility in most localities, can be handled effectively by cities and towns willing to follow the example of Jasper, Indiana. City fathers found that rats and flies collected around garbage cans and collection wagons. It was difficult to obtain bids from contractors for the work, and the Indiana Stream Pollution Control Board ordered the city to stop pouring untreated sewage into the near-by river. The enterprising mayor, discovering that a new sewage treatment plant had to be built, decided that a garbage treatment unit might be included and persuaded the majority of city homeowners to put in individual sink-drain garbage grinders. Then he made a deal with a large appliance manufacturer to supply and install the units at \$75, half price, with a year's guarantee. The results will be interesting to follow. We hope that Jasper, Indiana, will keep the public posted.

\* \* \*

SOAP OR SYNTHETIC DETERGENT, which do you prefer for home use? In areas where the water is hard, it will perhaps be simpler to use a synthetic detergent for home washing and laundering than to soften the water for each use. Dr. Foster Dee Snell claims that soap is preferable in soft-water districts, because it does not defat the skin as much as synthetics do, and he reported that washing tests showed that soap was a more effective cleaning agent than an alkyl aryl sulfonate detergent (a common type) on cotton, viscose rayon, nylon, fiber glass, and silk. On wool and acetate rayon washed under the same conditions, the sulfonated detergent was more efficient than soap. Another expert, who champions the synthetic detergents, holds that they do not need to be rinsed out of garments and other textiles, but he admits that omitting the rinsing operation will leave some soil in the cloth.

\* \* \*

WAX CRAYONS were found to be the cause of sties and other skin irritation in a seven-year-old girl, according to a report by Dr. Miriam Luten of Portland, Oregon. The child's allergy to colored crayons was so acute that her lids became infected after handling pictures colored with crayons by other children. Even colored pencils, protected by wood covers, produced irritation.

\* \* \*

HORMONE PREPARATIONS are dangerous if used without medical supervision, warned Prof. Hakon Rydin, head of the state pharmaceutical laboratory of Sweden and a specialist in biological research. In a report to the state medical board, he recommended that hormone preparations, including skin ointment and beauty creams, be listed among medicines that are obtainable only with a doctor's prescription. In a clarification of his report, he commented that hormone beauty creams were on a dangerous borderline: either they contained hormones in sufficient quantity to be effective, in which case they might be dangerous; or the hormones were present in such weak concentration that they were harmless.

\* \* \*

"TATTLE TALE GRAY" is not always caused by using the wrong soap. Sometimes it comes from economy in the use of water. In the latter case, the gray look may appear on black, dark blue, or other dark clothing that has been washed in water previously used for white clothes. When there is white lint in this water, it will catch and cling to the dark fabric, reports the textile specialists of the U. S. Department of Agriculture, and it will be difficult to remove in rinsing. To eliminate the grayish appearance from dark garments, use fresh suds for washing and bluing in the rinse water.

CLAIMS FOR AMMONIATED DENTIFRICES should be limited to their effect on the lactobacillus acidophilus count in the mouth and then only if actual demonstrable results have justified the claims for the particular product advertised, warns C. A. Morrell, Director, Food and Drug Divisions, Department of National Health and Welfare of Canada. He points out that while the association of high lactobacillus acidophilus counts with high incidence of dental caries makes it logical to assume that any agent -- such as the ammonium ion -- that reduces the former will be likely to reduce the latter, the assumption must be established by definite clinical trial, which is estimated to take about two years. His department at the present time considers misleading any claim that a dentifrice, with or without the ammonium ion, will or will help to stop or prevent tooth decay; have any effect on existing tooth decay; reduce the incidence of caries.

\* \* \*

IS WOOL slated to be a vanishing fiber? It has been an essential part of garments and textiles for so many centuries that it is hard to conceive of them without it, but the present decline in supply and the steadily increasing price for fleece are stimulating a trend toward greater use of rayon and nylon. The Wall Street Journal reports that one of the biggest manufacturers of rayon cloth has received double the number of orders for material from men's suit makers that he had last year and that the numbers of orders from women's suit makers is even greater. One large rug producer is experimenting with the introduction of carpets containing 20 percent nylon. There is even some attempt to market a fabric for year-round use which is 80 percent rayon and only 20 percent worsted.

\* \* \*

WHAT EACH FIRST-CLASS FOOD COMPANY NEEDS is a toxicologist, advises Food Industries. The magazine points out that the federal government is stressing increasingly the hazards of additions to foods and the unwanted residues in raw food materials -- such as DDT and other insecticides, no doubt. Merely reading the list of ingredients on the labels of some food packages on the grocery shelf strongly suggests that commercially prepared foods are more closely related to a chemical factory than a home kitchen, and who except a toxicologist can determine whether the particular chemical combination is desirable or safe for human nutrition?

\* \* \*

THE CONSUMER'S RIGHT to purchase equipment of his own choosing is yet to be established as a matter of legal principle. During the coal strike this past winter, newspapers carried reports of a miner who was expelled from his union because he installed gas heating in his new home. The national union upheld the action of the local union in spite of publicity given to the fact that three of four buildings owned by the United Mine Workers in Washington, D. C., were heated with oil. We haven't noticed any reports that the American Civil Liberties Union has rushed to defend the expelled miner or to take his case to court. The consumer, apparently, is just the person who pays and pays and whose freedom of choice is not regarded as one of the essential rights to be defended by the assorted do-gooders who aim to protect the rights of labor and various "minorities."

\* \* \*

AN INCREASE IN BEEF CATTLE by 20 to 30 percent is what the nation's economy urgently needs, advised Professor R. R. Snapp of the University of Illinois in a speech to farmers. This increase would lower prices, and although it might reduce profits to farmers, it would use up the present burdensome surplus of grain. Professor Snapp urged the adoption of animal feeding practices that would reduce the cost of production and enable steaks and roasts to be sold at prices which would keep them not only on the table of every American family, but also make them available to millions of Europeans. Steak for dinner at least every other night is something a man could look forward to with great pleasure.

\* \* \*

THE HOME BUILDER who is doing a lot of his own work can now extend the scope of his activities to plumbing, with an assist from Montgomery Ward. The new spring catalog features an offer to lend tools needed for installation of

(The continuation of this section is on page 29)



## Four TV Receivers and a TV Tuner

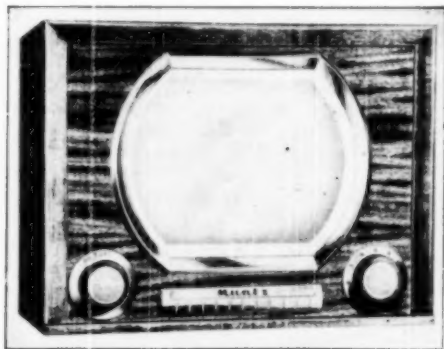
THE TELEVISION INDUSTRY is growing at an exceedingly rapid rate. On this account, there are constant changes being made in the design and execution of sets, and it is quite difficult to establish a firm basis for rating television receivers. Quite likely such a basis will have to await extensive further development in design of television sets and a considerable degree of stabilization in circuits and components. This is a problem which is, of course, common to all rapidly expanding industries which involve new and complex applications of science and engineering. The "art," as inventive experts call it, is likely to be considerably ahead of the *technology and methods of test*.

An important characteristic examined during the test procedure is picture resolution. The television picture as transmitted makes use of about 4.5 of the 6-megacycle band-width which the television broadcasting station is permitted to utilize or occupy. Receivers using separate amplifiers for the picture and sound information can be designed so that they are capable of reproducing the original picture almost as transmitted. This condition is dependent upon the fact that the intermediate frequency amplifier in the receiver has a so-called "band-pass width" which approaches the 4.5-megacycle width likely to be associated with superior picture reproduction.

Many of the newer models of TV receivers are using a so-called "intercarrier circuit" which reduces the number of tubes necessary and, because of its method of operation, the band-width on several sets tested was in fact limited to approximately 3.5 megacycles at best. This inescapably involved a



*Sylvania Model 1-090*



*Muntz Model M-21*

reduction in the maximum possibilities of picture fidelity. One receiver using the intercarrier circuit and undergoing test at this writing had a measured band-width of nearly 4 megacycles which would indicate that another barrier to less expensive but good receivers has been surmounted by the TV set designers. While the improvement in picture quality due to the increased band-width is slight, and of no concern where television broadcasts are sent over coaxial cable to the transmitting station, CR's engineers feel that the wisest course at the present time for the consumer will be to choose a receiver that utilizes separate intermediate frequency amplifiers in preference to a set using the intercarrier system if the maximum picture fidelity is desired. (The reason why the difference will not be important for many broadcasts involving use of coaxial cable systems is that the band-width for such cables is only about 2.75 megacycles at the present time, and therefore the

slightly better picture quality [fineness of grain] which the receiver is capable of producing will not have any useful effect, since the resolution in the picture as received is limited by the cable system.)

Subscribers often inquire regarding the size and kind of tube that are best. As a general rule it can be said that the larger sizes are becoming increasingly popular because they offer a more realistic picture than the smaller sizes, and it can be viewed conveniently by more people. The likelihood is that the great majority of sets sold in 1950 will be equipped with either the 12 $\frac{1}{2}$ - or 16-inch tubes; 10-inch-tube sales in February, for instance, amounted to only 3.4 percent of total picture-tube sales. Bear in mind that a tube size can be too large for use in a small room, especially where a convenient arrangement of the furniture cannot be made. Whether the tube in the set purchased is clear or has a "built-in" filter is a question for the purchaser to decide. The *Zenith* console reported on was equipped with a so-called "black" tube which several viewers preferred when it was compared side by side with the usual clear-glass-faced viewing screen. The increasingly popular rectangular-face tube has at least two advantages over one with a round face. First, it makes possible the use of a somewhat smaller cabinet, a factor of importance, especially with the larger tubes (with the large tubes, a big, bulky, and costly cabinet is unavoidable, and anything which tends to reduce the tube size somewhat can be quite helpful). Second, it tends to eliminate the possibility of exaggerated claims by the manufacturer regarding picture size (see CONSUMERS' RESEARCH BULLETIN, December 1949, p. 13 and 14 for additional information concerning some of the points above mentioned) and should also help eliminate the practice by some manufacturers of expanding the picture horizontally or vertically to obtain a competitive or sales talk advantage, with consequent distortion of the image. The picture if correctly received has a relationship of height to width of 3 to 4. With the distortion which some set manufacturers put into their design, this will be considerably modified, with results which are unsatisfactory to a critical observer of the scene pictured.

The remarks in the listings concerning sweep circuit linearity have been included to give the reader an indication of the distortion present in the picture as received on a particular TV set. Both the horizontal and vertical sweep circuits in a receiver must be well designed, and if they are not, it is likely that certain portions of the picture as seen will be expanded, contracted, or otherwise pulled out of shape, a condition which should not exist in any set which is adjusted correctly and is operating properly. The remarks concerning picture stability give an indication of the ability of the receiver to maintain a steady picture without jumping, jiggling, or "losing frames" after the short initial warm-up

period has passed, an effect often caused by changing circuit conditions or outside electrical interference, such as automobile ignition. Receivers having only Channel Selector and Picture controls must have very stable circuits if they are to be usable, and particular note should be taken by the purchaser before purchase to make sure they do. Ratings are cr50.

## Television Receivers

### A. Recommended

*Muntz, Model M-21* (Muntz TV Inc., 1735 Belmont Ave., Chicago 13) \$230. A-c operation. Table model with wood cabinet of good construction. Watts input, 160 (desirably low). 16 tubes (2 rectifiers and 12 $\frac{1}{2}$ -in. picture tube). Picture size, 11 $\frac{1}{4}$  x 8 $\frac{3}{4}$  in. Picture Control, Combination Volume Control and On-Off Switch, and Station Selector were on front panel, almost the minimum necessary, a desirable feature. Quality of parts, good. Workmanship and accessibility for servicing, good (one of the easiest sets to service so far tested). Picture stability, very good; it was not necessary to adjust either the horizontal or vertical hold control resistors during several weeks of use during test. Brightness, good. Frequency stability (lack of tendency to drift), very good. Picture resolution or fidelity, considered good (band-width, 3.4 mc.). Sensitivity, 90 microvolts on low band, 110 microvolts on high band (both fair). Stability of sweep circuits, very good; picture remained in synchronization over line voltage range of 80 to 135 volts when pre-set for 115-volt operation. Acoustical quality on listening test, considered about equal to that of good table-model radio; speaker was so mounted that it faced the side of the cabinet, which is undesirable. Power output at 400 cycles per second (audio section only), 2.2 watts at 10% distortion, fair. Estimated tonal range, 100 to 5000 c.p.s., only fair. Simplification of circuits has made the chassis of this receiver very "clean looking" but with no adverse effect on performance. No shock hazard found at exposed parts (leakage current negligible). 2

*Muntz, Model M-26* (Muntz TV, Inc.) \$329.50. Console model using 16-in. picture tube. Mask size, 14 $\frac{3}{4}$  x 10 $\frac{3}{4}$  in. Used 10-in. speaker facing viewer. Esti-



Craftsman TV Tuner Model RC 100

mated tonal range, 80 to 5000 cycles (only fair). For additional remarks, see listing of *Muntz, Model M-21*, since similar chassis is used. 2

## B. Intermediate

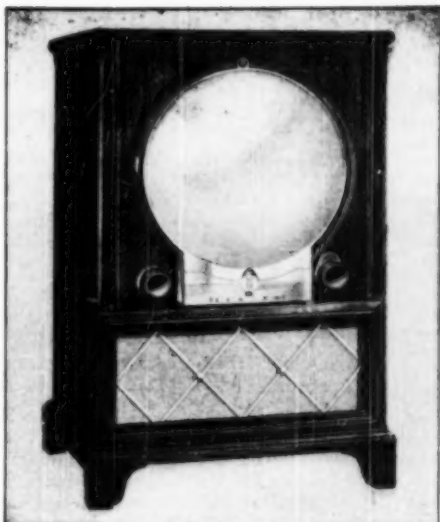
*Sylvania, Model 1090* (Colonial Radio Corp., 254 Rano St., Buffalo 9) \$400. A-c operation. Console model. Watts input, 270. Used 30 tubes including 16-in. picture tube and 5 rectifiers; also had 2 selenium rectifiers. Picture mask outsize,  $14\frac{3}{4} \times 11\frac{5}{8}$  in. 7 controls on front panel, hence tuning somewhat difficult and complicated for some. Quality of parts, accessibility for servicing, and workmanship, considered good. Frequency and picture stability, considered good. Picture resolution, considered good, though video band-width was only 3 mc. Sensitivity, 40 microvolts on low band (good), 50 to 100 microvolts on high band (good to fair). Stability of both horizontal and vertical sweep circuits, considered good. Set used intercarrier system. Acoustic quality on listening tests, good; set had somewhat larger than average audio output transformer, and 10-in. speaker. Estimated acoustical range, 70 to 6000 cycles (fairly good). Audio power output, 2 watts (fair) at 10% distortion. Electrical fidelity characteristic curve, within  $\pm 3$  db. from 75 to 7000 cycles (fairly good but not smooth). While this receiver has many good features, the narrow video band-width may be a disadvantage at times. As to general design, it was felt that comparable over-all results could have been obtained with less complication and fewer tubes and with resulting less power consumption and lessened need for servicing. 3

*Zenith, Model G-2441 RZ* (Zenith Radio Corp., 6001 W. Dickens, Chicago 39) \$400. A-c console model having well constructed wood cabinet. Watts input, 275. 24 tubes used including 3 rectifiers and 16-in. picture tube. Picture mask was round, and  $14\frac{3}{4}$  in. in diameter. Normal picture size,  $12\frac{3}{8} \times 14\frac{3}{8}$  in., and picture could be expanded vertically, with additional distortion, to fill viewing screen. Had combination Volume Control and On-Off Switch, Picture Control Switch, and Station Selector Control on front. Quality of parts, average to good. Workmanship, average; accessibility for servicing, good. Picture stability and frequency stability, both good. Picture clarity (resolution) and brightness, good; brightness was sufficient for daytime viewing. Over-all video band-width, 3 mc. Video sensitivity, 50 microvolts on low band (good); 100 microvolts on high band (fair). Stability of sweep circuits, good. Tonal quality in listening tests, about equal to that of average small console radio. Power output at 400 cycles, 2.1 watts at 10% distortion. Estimated tonal range, 80 to 5000 cycles (fair). Receiver was easily operated, and picture clarity was good. Shock hazard present and considered excessive (leakage current of 1.3 ma. between chassis and ground). 3

## Television Tuner

### A. Recommended

*Craftsman TV Tuner, Model RC 100* (The Radio Craftsman, Inc., 1617 S. Michigan Ave., Chicago 16) \$230



*Zenith Model G-2441 RZ*

plus \$45 for 16-in. picture tube. A TV tuner only, made particularly for custom installation and requiring separate audio amplifier and speaker. No cabinet supplied. Input watts, tuner only, 175. 26 tubes (1 rectifier) plus 3 selenium rectifiers. Picture size, approximately  $11 \times 14\frac{3}{4}$  in. Picture stability, very good. Mechanical layout, design, and workmanship, considered excellent. Used 4 separate controls on front panel, Station Selection, Fine Tuning, Picture Gain, and Audio Gain; this is a good arrangement, for experience has indicated that coaxial controls (two control knobs on one pair of concentric shafts) may become a source of trouble. For normal operation, set required use of only the station selector and fine tuning controls. Quality of parts, good. Picture fidelity, considered very good (video band-width, slightly over 4 mc. for each channel). Sensitivity, considered very good. Sweep circuit stability, very good. The usual drift tendency during warm-up (mostly during first 5 minutes of operation) was present, but correction was easily made by fine-tuning control. Audio i.f. band-width measured 265 kc. Distortion in audio output signal from discriminator, less than 2% (excellent). To realize fully the built-in quality of this tuner, it should be used in conjunction with a good high-fidelity amplifier and speaker system. If so used, those people with discriminating tastes in TV audio quality should find the *Craftsman RC 100* admirably suited to their needs. A newer model *RC 100A* is now available in which only slight circuit modifications are present. While tests have not been made, investigation would appear to indicate that it is at least the equal of and likely slightly superior to the *Model RC 100* reported on. 3

## Two Automatic and One Nonautomatic Washing Machines

### Automatic

#### B. Intermediate

The new *Frigidaire* model listed below differs mainly from the previous model listed by CR in June 1948 in that it uses a new style of tub (single-wall) which is claimed to minimize tangling and deposition of lint on the items being washed. While the new design seems to have corrected the lint difficulty, it has not satisfactorily corrected the tangling of the clothes. This tangling would seem certain to contribute to the wear on the clothes, and be a factor making for loss in tensile strength of the fabrics. The present and somewhat improved model does not warrant an *A* rating in comparison to the best of the automatic machines now available, which do not suffer from the fault of causing tangling of the contents of the washer.

*Frigidaire, Model WL-60* (*Frigidaire Div., General Motors Corp., 300 Taylor St., Dayton 1, Ohio*) \$299.75. Plunger-pulsator type. Cabinet, rectangular in shape, 25 in. square, 36 $\frac{3}{4}$  in. high. Clothes loaded through door at top. Porcelain finish inside and out. Water inlet temperature controlled by switch marked "Hot" and "Warm." Plunger-type agitator with built-in soap dispenser cup. Machine does not require to be bolted to the floor. Spinning action shuts off upon lifting of the lid. Maker's capacity rating, 8 lb. of clothes. Complete cycle consists of fill, wash, spin drain, fill, first



*Frigidaire Model WL-60*



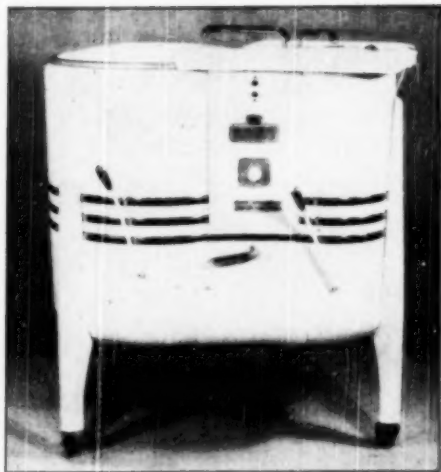
*Norge Model W-8407*

rinse, spin drain, fill, second rinse, and spin drain and dry, for a total time of approximately 30 minutes. (A special slow timer is available for machines installed in homes where water pressure and flow are low.) The *Frigidaire* required approximately 20 gal. of hot water and 10 gal. of cold per cycle. Washing effectiveness, fairly good, but somewhat uneven. Drying effectiveness, best of washers tested so far. (Water left in clothes, 50% of weight of dry clothes.) Vibration when properly installed and leveled, very slight (almost none). If load is unbalanced significantly during spin drain and dry cycles, machine stops. Tangling of clothes, even when they are loaded and removed by the special technique recommended by manufacturer, is sufficient to be a serious disadvantage and greater than in any washer previously tested by CR except the earlier *Frigidaire* (see text preceding listing). Would be rated *C*. *Not Recommended* for those for whom the type of clothing and fabrics to be washed would make the tangling and strain on the fabric objectionable, and, even with the slow timer installed, for homes where water supply pressure or flow is abnormally low (would be true of many private water supply systems).

3

#### C. Not Recommended

*Norge, Model W-8407* (*Norge Div., Borg-Warner Corp., Detroit 26*) \$339.50. Rotating-cylinder type. Cabi-



Easy Spindrier Model 30SS

net, rectangular in shape, 30 in. wide, 25¼ in. deep, 36 in. high. Clothes loaded through glass-paneled door at front. Water inlet temperature controlled by knob with markings of "Warm" and "Hot." Water level controlled by a float device which is adjusted by control knob marked "L," "M," and "H" for light, medium, or heavy load. Soap is added through small door in the top. Machine must be firmly bolted to floor. No provision for shutting off operation automatically if door is accidentally opened. Complete cycle consists of fill, pre-wash (maximum time, 10 minutes), drain, off. Fill, wash (maximum time, 15 minutes), drain, spray rinse, drain and spin, deep rinse, drain, spin, second deep rinse, drain, spin dry and drain, fluffing. Total maximum

time, 51 minutes (38 minutes when pre-wash is omitted). Maker's capacity rating, 18 lb. of clothes. Amount of water required for maximum (18 lb.) load, 22½ gal. hot, 10 gal. cold; for medium load (9 lb.), 20 gal. hot, 10 gal. cold. (Above figures do not include a pre-wash.) Washing effectiveness for both 9-lb. and 18 lb. loads, fairly good. Drying effectiveness with 18-lb. load, fairly good. Water left in clothes, 80% of weight of dry clothes (90% with 9 lb. load). Vibration, excessive, otherwise would have been rated *B. Intermediate*. Slight leakage of water through door gasket. Transmission oil requires draining and refilling once a year. 3

## Nonautomatic

### B. Intermediate

*Easy Spindrier, Model 30SS* (Easy Washing Machine Corp., Syracuse) \$199.95. Spinner-type drier with oscillating agitator. Equipped with timer which did not shut off machine but rang a bell at the end of a selected interval of time. Hot and cold water is connected by means of rubber hose to inlet connection containing a filter at rear of machine. Filter in inlet, which is a fabric similar to turkish towelling, must be removed frequently and washed. Maker's capacity rating, 8 to 9 lb. of dry clothes. Required 16 gal. of hot water to fill tub. Rinse required approximately 6 gal. of hot water and 12 gal. of cold water. Time required for pump to empty tub, 3 minutes. Pump noisy during wash period. Washing effectiveness, fairly good (but below that of the *Maytag, Model E2LP*, the best non-automatic machine previously tested). Drying effectiveness, very good. Water left in clothes, 70% of weight of dry clothes. When clothes were properly placed in spinner basket, vibration was slight. Grease cup on pump requires attention each month. The manufacturer's claims of "automatic spin-rinsing" and "no more lifting of heavy wet clothes" seem to us misleading. The spin-rinse is not automatic as the advertisements claim, and the clothes are required to be manually lifted from the wash tub of the machine to the spinner tub. 3

## A Telescope — Cheap but not Good

A *Super Scope* telescope, advertised in one of the leading newspapers of the country, consisted of three sections of telescoping cardboard tubing, each about one foot in length, and associated lenses. The ocular had been fastened on the end of a wooden block by use of a piece of cardboard over it stapled to the wood. The "precision and polished lenses" with which the device was alleged to be equipped consisted of a piece of ordinary glass, a double convex objective lens, and a simple negative lens for the "terrestrial" eyepiece or a simple positive lens

for the "astronomical" eyepiece. Fuzzy and indistinct images caused by spherical aberration and fringes of color made the telescope one of little practical value; it decidedly was not "ideal for studying stars or for plane spotting," or even approximately so.

### C. Not Recommended

*Super Scope* (Criterion Co., 438 Asylum St., Hartford 3, Conn.) \$2.95, postpaid, on a full refund basis if not satisfied.



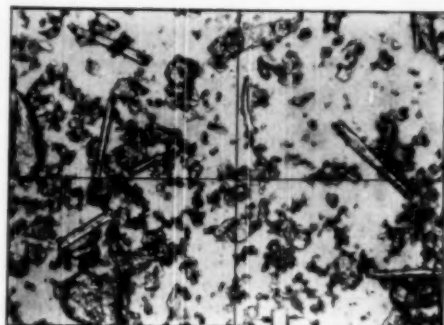
## Is Face Powder Taking a Back Seat?

### CR's Report on 18 Brands

IS face powder taking a back seat? Are there more effective ways of getting and/or holding one's man than a dainty application of powder on the nose? An intensive scrutiny of current cosmetic advertising fails to turn up a single picture of a good-looking young couple locked in each other's embrace because she wore the right face powder. Since powder is just a good staple product designed to take the shine off a girl's countenance, it probably does not lend itself to the more glamorous exploitation reserved for perfumes and hormone creams. It is still found, however, in plentiful supply on cosmetic counters and obviously must be in demand. Perhaps face powder has been supplanted to some extent by various types of cake make-up, although applications of this cosmetic are more suitable to the theatre, to social functions, and the television studio than the bright light of everyday sunshine.

In any event, the vogue for cake make-up which claims the advantage of staying on longer than face powder has definitely influenced the composition of several brands of face powder. It has been CR's custom in previous years to have face powders analyzed microscopically with use of polarized light by a competent scientist for the quality and fineness of the minerals used in their formulas, supplemented with chemical tests for starch and zinc. Starch has long been known to cause an unpleasant allergic reaction in some people and most manufacturers have long since abandoned it. In the present test only two powders showed the presence of starch, *Elizabeth Arden Poudre d'Illusion* and *Lentheric's Tweed*. Zinc, too, has been reported as the cause of allergic sensitivity. This year's test, like CR's 1948 study, revealed that zinc compounds are in common use in face powder, for zinc was found in all brands with the exception of *Almay*. Possibly an allergy to zinc in face powder is sufficiently rare so that manufacturers have had few complaints on this point.

The new developments in face powder formulas were summed up by CR's consultant, who, speaking as an expert petrologist, noted that there was a pronounced trend away from the use of talc to other substances like zinc stearate, zinc oxide, whiting or chalk, titanium oxide, and other covering and adhering compounds. He pointed out that whereas in former tests we were concerned with impurities in the talcs used, it is now necessary to



↑ 1  
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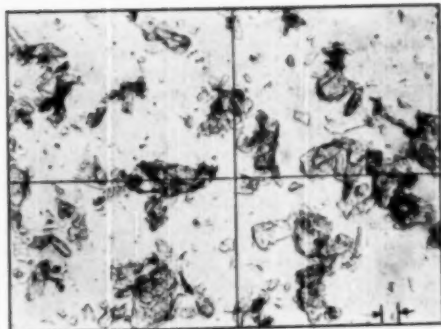
Figure 1

Photomicrograph of Helena Rubinstein Face Powder. "Silk" fibers, talc flakes and other "dusty" ingredients are visible.

search for the presence of talc in some of the face powders currently available. Where the function of face powder at one time was primarily to give a soft, smooth effect, or to remove shine from the skin, the present tendency appears to be one of achieving a more substantial camouflage.

In addition to microscopic and chemical tests, the face powders were evaluated for their covering and pigmenting properties. In this connection it should be noted that zinc stearate, a common constituent of certain brands, adheres well, although it does not have great covering quality. Talc, on the other hand, does not have as dense white pigmenting properties as some of the other ingredients, but it spreads smoothly, easily, and uniformly. On over-all coverage, *Evening in Paris*, *Max Factor*, *Charles of the Ritz*, *Lady Esther*, and *Marcelle* face powders were found to be the most effective. The other brands were judged to have about equal coverage.

The only bizarre note in the claims made for face powder was the label on the *Helena Rubinstein Silk-Screen* face powder which read: "Pure silk blended into fabulous new face powder." Just why finely ground silk should be used in something to take the shine off a girl's nose is a question that very likely only an advertising man can answer. No doubt its greatest effectiveness is to give the advertising writers what is known as "a new angle." That something new had been added to the *Helena Rubinstein* formula was borne out by



**Figure 2**

Photomicrograph of Johnson's Baby Powder. Almost pure talc shown in the photo. These tiny flat flakes of talc lie flat upon the microscope glass.

the fact that a small percentage of fibers showed up under the microscope and are visible in the photomicrograph (Figure 1). For smooth feel and slip, however, a face powder that contains a large amount of high-quality talc, in the opinion of CR's consultant, has no equal. In fact, he pointed out that the *Mennen* and the *Johnson's Baby Powders*, which were essentially pure talc of top quality, were unexcelled by any in the entire lot of powders tested. Pure talc is considered to be one of the most desirable ingredients for face powder formulas because it is relatively inert, hence it is usually nonirritating, does not react with the skin, perspiration or other secretions. It may also repel water and act as a temporary but frail protecting film. Such powders will give less of a "made-up" effect on application.

In general, all of the talc used in the face powders examined was relatively free from mineral impurities, and was uniformly and well sized (Figure 2). Almost no quartz or tremolite, an impurity common to low grades of talc, was found. The powdered chalk or whiting and other constituents were of proper fineness. Coloring was also good.

In conformance with CR's previous practice, face powders have been rated on the mineralogical quality of their constituents, with preference given to those high in talc. Prices shown do not include the 20 percent federal excise tax.

#### A. Recommended

##### POWDERS HIGH IN TALC

The following powders were all found to contain chiefly talc of high quality and a zinc compound. No starch was found.

*Evening in Paris* (Distributed by Bourjois, Inc., 35 W. 34 St., New York City) 2½ oz., \$1 (38.1c per oz.). Rachel.

*Frances Denney Satiny Poudre* (Distributed by Frances Denney, Philadelphia) 3.3 oz., \$1.75 (53c per oz.). Rachel.

*Harriet Hubbard Ayer Luxuria* (Distributed by Harriet Hubbard Ayer, Inc., 323 E. 34 St., N.Y.C.) 3 oz., \$1 (33.3c per oz.). Rose beige. Contained a carbonate like chalk.

*Pond's Dreamflower Powder*, "Sheer-Gauge" (Distributed by Pond's Extract Co., 60 Hudson St., N.Y.C.) 1.1 oz., 29c (26.4c per oz.). Mocha. Contained a carbonate like chalk.

*Revlon* (Distributed by Revlon Products Corp., 745 Fifth Ave., N.Y.C.) 3½ oz., \$1 (28.6c per oz.). Pink lightning.

##### POWDERS WITH MODERATE AMOUNTS OF TALC

The mineral ingredients of the following brands were judged to be good and their covering power was excellent. They contained a little talc and did not contain starch. They all contained a zinc compound, with one exception noted.

*Almay* (Schiefelin & Co., 22 Cooper Square, N.Y.C.) 2¼ oz., \$1 (44.4c per oz.). Sherry. Sample tested did not contain zinc.

*Avon* (Avon Products, Inc., 30 Rockefeller Plaza, N.Y.C.) 2½ oz., 89c (35.6c per oz.). Golden rachel. Contained a carbonate like chalk.

*Du Barry* (Richard Hudnut, 113 W. 18 St., N.Y.C.) 5 oz., \$2 (40c per oz.). Rachel No. 2. Contained considerable amount of a carbonate like chalk and was high in zinc.

*Dorothy Gray Portrait* (Distributed by Dorothy Gray, Ltd., 445 Park Ave., N.Y.C.) 3 oz., \$1 (33.3c per oz.). Special blend. Contained considerable amount of a carbonate like chalk.

*Yardley Band Street English Complexion Powder* (Distributed by Yardley of London, Inc., 620 Fifth Ave., N.Y.C.) 2¼ oz., \$1 (44.4c per oz.). Honey glow. Contained a considerable amount of carbonate.

##### POWDERS LOW IN TALC

The following brands contained little talc and were high in non-talc ingredients such as a carbonate like chalk. They did not contain starch.

*"Botany" Brand, Lanolin* (Distributed by Botany, Passaic, N.J.) 3¼ oz., \$1 (30.8c per oz.). Peach shower. *Charles of the Ritz Hand Blended Face Powder* (Distributed by Charles of the Ritz, 11 E. 58 St., N.Y.C.) 1¼ oz., \$1 (80c per oz.).

*Helena Rubinstein Silk-Screen for Dry Skin* (Distributed by Helena Rubinstein, Inc., 655 Fifth Ave., N.Y.C.) 1½ oz., \$1 (72.7c per oz.). Crackerjack. Contained fibers ranging in length up to 0.2 mm.

*Lady Esther* (Lady Esther, Ltd., 7171 W. 65, Chicago) 2-7/10 oz., 55c (20.4c per oz.). Brunette.

*Marcelle Hypo-Allergenic* (Marcelle Cosmetics, Inc., Chicago 47) 2¼ oz., \$1.10 (40c per oz.). Ochre.

*Max Factor Hollywood* (Max Factor & Co., Hollywood) 3¾ oz., \$1 (26.7c per oz.). Amber rose.

#### B. Intermediate

*Elizabeth Arden, Poudre d'Illusion* (Distributed by Elizabeth Arden, 681 Fifth Ave., N.Y.C.) 2-15/16 oz., \$2 (68.1c per oz.). Rachel. Contained a carbonate like chalk, and starch.

*Tweed* (Distributed by Lenthéric, Inc., 745 Fifth Ave., N.Y.C.) 3 oz., \$1.25 (41.7c per oz.). Rose foncé. Contained starch.

## Baby and Toilet Powder

Powdering a baby profusely after his bath should be performed in such a way that a cloud of powder is not disseminated in the air for baby to inhale. Some years ago a warning was sounded in Hygeia that chance inhalation of powder in this fashion may cause an allergic sensitivity. There is a danger, too, that an excess of powder may cause congestion of the lungs. Zinc stearate has been reported to have caused pneumonia when breathed in the form of powder, but one trade expert points out that probably any inert powder inhaled in sufficient quantity would have the same unfortunate effect.

## A. Recommended

*Johnson's Baby Powder* (Johnson & Johnson, New Brunswick, N.J.) 4½ oz., 25c (6.1c per oz.). Contained boric acid. No zinc was found in sample tested.

*Mennen Baby Powder, Borated* (The Mennen Co., 345 Central Ave., Newark, N.J.) 4 oz., 25c (6.2c per oz.). Contained boric acid and sodium borate. No zinc was found in the sample tested.

## B. Intermediate

*Merck Zinc Stearate Toilet Powder* (Merck & Co., 1935 Lincoln Ave., Rahway, N.J.) 1 oz., 25c. Essentially fine-grained zinc stearate. Contained no starch and no talc. Zinc stearate forms a water-repellent coating and is frequently used as an ingredient in face powders. The product wisely carried a caution against inhaling any powder.

## CR's Material of Interest in Home Economics Courses

THE FOLLOWING is a partial list of reprints of articles from previously issued CR material which we believe would be of special interest to teachers who want material for science and household appliance courses. If a considerable number of copies of an article is needed, those interested may write us, as a lower price may be possible in some cases, where 20 or more copies are wanted. A few of the items are rather old, but the material in even the older items is valid and relevant in the main at the present time.

Reprints	Price	No. Pages
*Four Vacuum Cleaners.....	\$.20	2½
*Automatic Washing Machines Dishwashing Machines in Actual Use.....	.15 .20	4 2
*Three Automatic Dishwashing Machines — Final Report..	.10	2
*Reducing Hazards of Electric Appliances.....	.20	3
*Panel Heating.....	.25	5
*Suggestions for Keeping the House Cooler in Summer...	.20	2½
*Cesspools and Septic Tanks..	.10	2
*Home Insulation.....	.40	7¾
Roof Coverings.....	.10	5
Floors and Floor Coverings...	.20	3
Lacquers and Varnishes for Linoleum.....	.20	3

Reprints	Price	No. Pages
*Selection and Care of Rugs and Carpets.....	.15	5½
*Mildew-Proofing Agents.....	.25	5½
*Extreme Poisoning Hazard in Breakage of Fluorescent Lamps.....	.10	1½
*Motor Oil Dope — Casite....	.15	3¼
*Cleaning the Sewing Machine.	.20	3
*The Care and Treatment of Knives.....	.15	3¼
Taking Care of Your Typewriter to Make It Last....	.15	1¾
Extra-Good Teeth in the North of Texas.....	.10	1½
Reasons for Caution — Strange Substances are Used in Modern Factory Food Preparation.....	.10	1
Waxed Papers.....	.10	1½
*Food Quality from the Soil...	.15	3½
Food and The Consumer.....	.10	7¼
The "Mineral Crystals," "Salts," Etc., Racket.....	.10	5½
How to Choose a Good Watch	.15	4¾

\*Available as an illustrated reprint.

# The Use of Blowers for Burning Buckwheat Coal

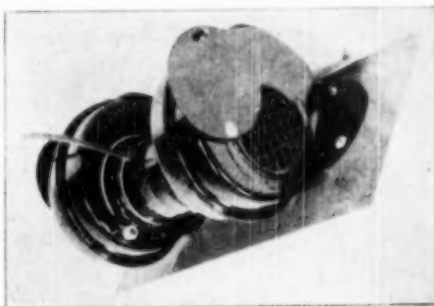
WITH seemingly steady increases in the price of coal, many inquiries are being received as to the feasibility of the use of mechanical draft blowers for burning the smaller and cheaper No. 1 buckwheat size of anthracite.

Burning the smallest sizes of coal is standard practice in industrial and commercial plants where thousands of dollars are saved annually by burning the fine coal with forced draft, on large grates. In such cases the probable savings in fuel cost are represented approximately by the direct difference between the costs per ton of the two fuels, which is currently about \$6.50 per ton burned.<sup>1</sup> In residential use, however, the savings are not likely to be as great as the difference in fuel costs per ton would indicate.

## Disadvantages of Blowers

If the correct size blower is chosen, and the unit is operated properly, coal must be added more frequently than when burning the larger sizes, because of the necessity for keeping a somewhat thinner fuel bed. This may necessitate two and in exceptional cases several extra trips to the cellar each day (a disadvantage most likely to be encountered where an undersized blower has been selected). Increased ash (about one-third more) and some increase in dust in the cellar due to the inevitable escape of dust-laden air under pressure are further disadvantages which may tend to offset the direct financial savings.

An even greater disadvantage lies in the danger of "puffs" or minor explosions when too much coal is added or when the entire bed of glowing coal is blanketed with unburned coal at any one charging. The danger presented is not due directly to the explosion itself, which is usually very slight, but to the likelihood of disconnecting the smoke pipe, permitting poisonous gas to escape into the cellar and house with the continued operation of the blower. An example of the great potential seriousness of this hazard was the Dartmouth College disaster of several years ago where nine residents of a fraternity house were asphyxiated after a "puff" had blown down the smoke pipe. Only recently, sixty University of Wyoming students were overcome by fumes escaping from a furnace because of someone's error in leaving the furnace door open; the hot-air furnace blower pumped poisonous gases in great quantities all through the dormitory. The operation of a blower-equipped furnace can be



Homart Buckwheat Coal Blower

made safe from this danger by the relatively simple expedient of *always* firing lightly, and *always* leaving a hot spot of glowing coals on the surface of the fuel bed *after* firing. The active flame from this hot spot will act as a torch and ignite the off-coming gases before a dangerously explosive amount has accumulated. The position of the hot spot should be changed each time coal is added.

Because of the danger mentioned, the Anthracite Institute does not list forced-draft blowers as approved for residential use. However, when blowers are installed and used correctly (as outlined above), thousands of owners like their operation and consider the savings worth any additional trouble and care in firing that may be involved.

## Potential Savings

In residential use of coal, a somewhat greater number of tons of buckwheat coal may be needed than of the larger sizes. Thus the gross saving of \$6.50 per ton will be reduced proportionately. While the amount of fine coal required will vary with the quality obtainable, and with the care exercised in firing the buckwheat, between 10 and 15 percent more coal may be expected to be used than with large-sized fuel. Thus a consumer formerly using 10 tons of the chestnut size will likely use from 11 to 11½ tons of buckwheat, with an annual saving of between \$40 and \$50. This, we believe, represents a fair average picture of the probable savings, when cost of electricity for the blower is subtracted from the above amount. Since a blower of this kind draws usually only about 60 watts, the 125 kwhr. needed annually would cost about \$4.50 (at a 3½¢ rate).

<sup>1</sup>Based upon following average fuel prices for 14 Eastern cities, as of April 1, 1950, as reported by Anthracite Institute: chestnut, \$21.78; No. 1 buckwheat, \$15.26.

## Selection of a Size of Blower

In selecting a blower, two factors are highly important — the amount of air that can be delivered, and the ability of the blower to deliver this amount of air at a pressure sufficient to overcome the resistance offered by the grates, ashes, and fuel bed.

Under domestic conditions, about 20 pounds of air are required to burn each pound of coal. As the air flow rate is expressed usually in terms of cubic feet per minute (c.f.m.), and coal-burning rates in pounds per hour (lb./hr.), one may say that an air flow of about  $4\frac{1}{2}$  c.f.m. is needed to burn one pound of coal in one hour. Since a blower should be of sufficient capacity to burn a maximum of 10 pounds of coal per square foot of grate area per hour, the capacity of the blower selected should be 45 c.f.m. for each square foot of grate area to be fired.

This same ratio is expressed more simply in the following table:

**Minimum Blower Capacity for Burning Buckwheat Size Anthracite**

	Diameter of Grate (inches)	Grate Area (sq. ft.)	Blower Capacity cu. ft. per min. (c.f.m.) <sup>1</sup>
Round	17	1.6	72
	18	1.8	81
	20	2.2	99
	22	2.6	117
	24	3.1	141
	26	3.7	167
	(sq. ft.)		
Rectangular	1	1.0	45
	2	2.0	90
	3	3.0	135
	4	4.0	180

<sup>1</sup>Blower capacities shown are those at the actual working pressure, namely  $\frac{1}{4}$  to  $\frac{1}{2}$  in. in the duct. Reputable manufacturers are in a position to quote capacities of their line of small blowers on this basis. Such information for the specific air pressures mentioned should be secured from them before purchasing a blower.

As the resistance to the flow of air from a typical home furnace blower increases, the air delivery from the blower decreases, sometimes at a very rapid rate. To be of any value at all, the air delivery from a blower must be sufficient to overcome the resistance of the fire bed and grates. The "free" air delivery figures for a blower should not be used as a basis for calculation of flow through the fire bed. For No. 1 buckwheat, a fuel bed resistance of  $\frac{1}{4}$  to  $\frac{3}{8}$  inches of water may be expected at the selected combustion rate of 10 pounds



Delco Blower

per square foot of grate. This, then, is the opposing pressure at which the air deliveries mentioned should be measured.

Unfortunately, those attempting to select a blower on the basis of capacity as shown in the table will find themselves handicapped by the fact that, in the over-the-counter blower business, a buckwheat blower is a buckwheat blower, without the dignity of having its size or capacity marked, specified, or even known to the retail trade. (There are some manufacturers, however, who accompany each line of blowers with very complete rating sheets to facilitate intelligent selection.) In the case of the Sears-Roebuck blower, nothing was said about capacity in the otherwise very acceptable installation instructions; and an otherwise helpful clerk, upon being asked the maximum size of furnace with which the blower could be used, replied, "Oh, 20, or 22 inches, or something like that."

Since a blower of inadequate size *restricts* rather than *boosts* the draft, consumers who want to be sure of what they are doing will be well advised to insist upon capacity information (from the maker, if the store cannot or will not supply it) before making a purchase. The selection of a blower of the correct size is much more difficult than is generally realized. Paradoxical though it may seem, a blower of inadequate size will in many cases actually provide less air flow through the furnace than would be obtained without the extra mechanism. A blower that is too large for the furnace or boiler will cause inefficient combustion, with formation of clinkers.

## Blower Installations

There are two general ways in which blowers can be used: (1) merely as a booster for quick accelera-



tion of the fire; (2) in conjunction with a thermostat to hold the burning of the fire up to the rate needed. In the first instance, a simple on-off electric switch is usually the only control used; results are far from satisfactory, and a certain element of danger is introduced when the switch is left on for prolonged periods, as will occur occasionally through forgetfulness. A living room thermostat (of the line-voltage type) is a far more satisfactory control, and it is the only method recommended by CR. This will provide on-off blower operation as heat is needed (at the thermostat location). Such thermostats may be purchased separately from such manufacturers as Minneapolis-Honeywell; Sears, Roebuck & Co. (*Type S26 80/50*, \$6.50); the Perfex Corp., Milwaukee (*Model 100D*, \$12.20), etc. An inexpensive temperature-limit switch, wired in series with the thermostat, to cut off blower operation in the event overheating of the furnace occurs is also recommended as a safety measure. It is also well to provide a convenient manually-operated cut-off switch so that the blower will not operate while ashes are being removed.

Most blower motors require oiling periodically and should therefore be installed in an accessible position.

### B. Intermediate

*American Blower Co., Model 45II* (American Blower Co., Detroit, and Canadian Sirocco Co. Ltd., Windsor,

Ontario) \$78 list, but subject to discount. 1/20 hp. motor rated at 114 c.f.m. against 1/4 in. static pressure should be good for 2 to 2 1/2 sq. ft. of grate area. (American Blower Co. also manufactures a complete line of blowers in larger sizes.) 3

### C. Not Recommended

The following blowers are not suitable for any except the very smallest boilers. They are not buckwheat blowers in the strict sense of the term, and would be more useful as ventilation units for a small darkroom or kitchen.

*Delco* (Delco Appliance Div., General Motors Corp., Rochester, N. Y.) \$9.95. Nameplate on motor was only one found; same unit is sold by a number of jobbers, possibly also under their trade names. 0.5-amp. 40-watt motor with 3-in. squirrel-cage type fan. Compact; exceptionally quiet in operation. Free air delivery of 50 c.f.m. at 1/4 in. of water, static pressure, increased, to 35 c.f.m. at 1/2 in. static pressure, and 20 c.f.m. at 3/4 in. static pressure. For this reason, could not be rated as suitable even for a grate as small as 17 in. 1

*Homart Buckwheat Coal Blower* (Sears, Roebuck & Co.) \$14.95 at retail store. Mail-order catalog lists same blower with thermostat, *Cat. No. 42-8212*, at \$16.75, plus postage (thermostat was not tested). Twin fans with 40-watt motor (actual watts, 37) mounted between. Entire assembly mounted on insulating sheet for ready attachment to ashpit door. Free air delivery of 95 c.f.m., 65 c.f.m. against 1/4 in. of water, static pressure. Suitable only for boilers up to 1 1/2 sq. ft. of grate (17-in. diameter) only. 1

## Off the Editor's Chest

(Continued from page 2)

shall be unable to do more than simply send a form indicating which one of CR's previous issues discussed the particular subject. (Even when we are not under such heavy pressure, we can seldom spare the time of a technical expert to prepare any sort of answer to a problem outlined on a postcard.) When no reply is received, our subscriber may assume no information can be made available that deals directly with his particular problem.

We hasten to add for the benefit of those who are likely to mutter under their breath about building a moat about our Ivory Tower, that it is no Ivory Tower we'll be inhabiting for the next four months but something more like a sweatbox, and there are no slave drivers so relentless as a printer's dead-

line, especially where difficult technical subject matter is concerned. Last year when we were late and the printer was late, we were literally swamped the first two weeks in October by letters asking "Where is my copy of the 1949 Annual Cumulative Bulletin?" This year we hope to get the 1950 Annual ready for mailing on time the last week in September, but please do not expect us to have time also for the luxury of correspondence with several thousands of our subscribers. Discussions of necessary items of content of monthly BULLETINS and the *Annual Cumulative Bulletin* with consultants and advisory experts will provide all the correspondence load our technical and stenographic staff will be able to carry during the months between now and September.



## Raincoats Made of Plastic Film

**T**HE PLASTIC RAINCOATS, which have become rather popular in the past five years or so, have the practical advantages of being thin and very light in weight, and they can be folded up and stored or carried in a small space, even, in some cases, in a coat pocket or a woman's handbag. They are inexpensive to buy, as compared with other rainwear. Stains and spots can be wiped off, and consequently they will not need professional cleaning and "reprocessing" (rewaterproofing) as many other raincoats do.

Plastic raincoats have certain disadvantages inherent in the material, however, which limit their usefulness and prevent them from being comfortable when they are worn for a long period. Plastic is waterproof, but it is not permeable to air, and hence does not permit access of air to and from the wearer's body. Manufacturers put ventilating holes in the raincoats, but even so the wearer perspires more than he would in a raincoat made of fabric, and in time he will become uncomfortable. Some plastic raincoats change their texture in a rather unpleasant way in cold weather, as the material becomes stiff and loses its draping quality and good appearance. They likewise become un-

comfortable to wear in this condition. None of the films tested cracked, split, or checked when creased sharply with a pair of tongs after being conditioned at 0°F for two hours.

Tests were made of the flammability of the plastic films. None of them ignited very readily; a lighted cigarette held against the film did not set the material afire, though it made a hole in it. In one series of tests none of the films burned for more than a few seconds after they were ignited. In another series of tests, with strips of the film held in a vertical position, the film used in the *Plassee* coat was found least flammable; this film burned only a short time and then melted and fell apart. On the basis of all the tests made, the films were considered to present no great fire hazard.

For CR's tests, four plastic coats were bought. Two of these were of the same brand. All the coats were for men and were single breasted. Snaps and buttons were placed close to the edges at the front of all the coats. This is not desirable inasmuch as raincoats give better service if flaps are deep, to minimize the danger of gaping and exposure. Incorrect placement of buttons and snaps is an important factor in the poor appearance of plastic rain-

coats as compared with those made of fabric. All the snap fasteners on the raincoats tested closed and opened easily.

The coats were examined for details of construction, with particular emphasis on factors that would mean good protection against rain. The materials were given tests for breaking strength, tear, stiffness, and flammability.

### B. Intermediate

*Elasti-glass* (Buchsbaum & Co., 17 S. Michigan Ave., Chicago 16; Sears-Roebuck's Cat. No. 45-7416) \$5.95. Made of translucent green vinyl plastic film (*Vinylite*). Loose-fitting coat with sleeves set in one piece with body; had 6 metal *Klikt* fasteners. Had 2 large two-way (accessible from inside and outside) pockets. Heat-sealed seams were found satisfactory and not permeable to water. (Not listed in current catalog.)

*Elasti-glass* (Buchsbaum & Co.; Montgomery Ward's Cat. No. MA4612) \$5.95, plus postage. Included carrying

case. Metallic tan. Was similar to *Elasti-glass* listed above, but film was a little thinner. (Not listed in current catalog.)

*Koroseal* (Climatic Rainwear Co., Inc., Empire State Bldg., New York City) \$7.95. Included carrying case. Made of vinyl plastic film (*Koroseal*). Raglan-sleeve, fly-front coat with 22½-in. *Conmar* slide fastener and 2 *Dot Snapper* fasteners. Had 2 shallow pockets. Heat-sealed seams were found satisfactory and not permeable to water.

### C. Not Recommended

*Plassie* (Whitewater Raincoat Co., Whitewater, Wis.; fabric made by Gordon-Lacey Chemical Products Co., Maspeth, L.I., N.Y.) \$2.95. Translucent silver luster vinyl plastic film. Raglan-sleeve buttoned coat with 5 four-hole plastic buttons and corded button holds. No pockets, but had two slash openings to give access to suit pockets. Water passed through the rolled and sewed seams.

## Caring for Paint Brushes

**M**OST of the following valuable suggestions on the care of paint brushes appeared in a North Carolina Extension Service pamphlet on Refinishing Furniture, Extension Miscellaneous Pamphlet No. 16 (no longer available). Good brushes are expensive and should be well cared for. Avoid needless damage to brushes through careless use and storage.

When a period of only a few hours is to elapse between uses of a brush, suspend the brush in the proper liquid up to the ferrule or metal part. This can be done by tying the brush to a stick laid across the top of a can, or hanging the brush on a headless nail driven into such a stick, by a hole drilled in its handle at the proper level.

For a *paint brush*, the liquid to use is equal parts of turpentine and oil or of mineral spirits and oil.

For a *varnish brush*, turpentine or mineral spirits alone.

For a *brush used in water-thinned paint*, water.

For a *shellac brush*, denatured alcohol, *not* turpentine or mineral spirits.

For a *brush used with lacquer*, lacquer thinner, *not* turpentine or mineral spirits.

When more than a day is to elapse before using a brush again, it should be cleaned carefully, washed, and laid away dry. Brushes used with varnish, paint, or enamel may be cleaned with mineral spirits, or Stoddard Solvent (a dry-cleaning solvent

somewhat similar to kerosene). The brush should be cleaned all the way up to the handle. When all the pigments have been removed, shake out the mineral spirits and then wash with soap and warm water. Rinse out the soap, shake the brush as dry as possible, then wrap it in paper and store it on its side with the bristles lying straight.

If a brush used in paint, lacquer, or shellac has become somewhat stiff, it can easily be cleaned in commercial paint and varnish remover, and the cleaning then completed by thorough rinsing in mineral spirits.

The type of varnish remover which is preferred for brush-cleaning is the kind that is made of one or more volatile solvents (the fumes of such mixtures are poisonous and should not be inhaled). The other more common type of paint and varnish remover, made by dissolving a powder in water, can be used if necessary, and is easily obtained in paint and hardware stores. Proper proportions in this case are 1 cup of the powder (or trisodium phosphate or washing soda) to 1 quart of boiling water. *Extra-thorough rinsing of brushes after cleaning is important when this type of alkaline cleaning agent is used.*

In storing a brush, it should be wrapped in waxed paper or newspaper, carefully, in such a way that the bristles will not be bent or deformed, then laid flat on a shelf or stood, handle down, in a can or jar.

## Electric Clocks

**A**N ELECTRIC CLOCK, even of good construction and design, is capable of furnishing accurate time only if the power company maintains an uninterrupted supply of alternating current which holds quite accurately to a steady frequency, hour after hour, and day after day. In certain areas of the country frequency variations will occur, and they may be sufficiently large, in some instances, to require resetting of an electric clock from time to time.

Interruption of electric service with consequent time loss of several minutes to several hours is pretty common in rural areas where open electric feeder lines are more at the mercy of structural weaknesses and the elements than in big city areas. Indeed, many are the persons who have been late for work because they depended upon an electric clock which had lost an hour or more because of a power failure (called an "outage") caused by a storm during the night.

There are three kinds of electric clocks commonly found: (1) Non-self-starting. (2) Self-starting without current interruption indicator. (3) Self-starting with telltale as indicator which shows that current has stopped and clock has not run for an undetermined period.

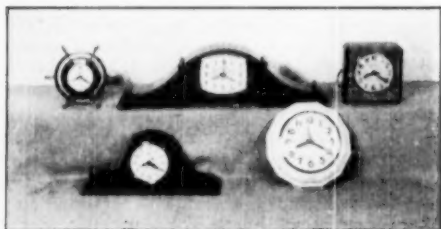
The non-self-starting clock is perhaps the best of the three designs since the time which it gives normally can be relied upon so long as the clock is running, and continues to operate properly. This, of course, assumes that frequency variations in the line current are satisfactorily small. The self-starting clock with telltale would be equally useful if the method used to indicate current interruption was such as surely to attract the notice of any person glancing at the clock. Unfortunately the notification device is usually only a small red dot (about  $\frac{1}{4}$ -inch diameter) which may very often fail

to be noticed when one glances casually or quickly at the clock. A self-starting clock which has no indicator can never be relied upon because it may have lost only a few seconds or many minutes during some current interruption. Of course, if one lives in an area in which current outages almost never occur, an electric clock will keep excellent time, may indeed be more reliable (and a good deal more accurate, of course) on the whole than a spring clock of ordinary quality.

For dependable time and for use as a check one should normally have in the home a good spring- or weight-driven clock or a watch which is wound and set regularly. While such a timepiece may run fast or slow, there is a certain *reliability* about its deviation which one soon learns to know and make allowance for.

In CR's tests, each electric clock withstood a proof voltage of 1000 volts. Each clock was tested for low-voltage operation, and continued to run on a line voltage as low as 90 volts. All the clocks had legible numerals except the *Hammond Modern Firefly*, which had modern numerals that some might find difficult to read. Unfortunately, there is no way of predicting the running life of an electric clock from any sort of test, and there is no reliable method of giving a clock an accelerated life test. The clocks were operated for a period of at least three months in each case, and all functioned satisfactorily during this period. As noted in the listings, some of the clocks did not have minute or second markings; absence of these makes a sweep-second hand useful chiefly as a mere indicator that the clock is running.

The amount of noise made by the clock mechanism, the kind of mechanism used, tightness of the case against entrance of dust, and kind of case were all considered in the listings. With the exception of the *Hammond Modern Firefly*, all clocks had self-starting motors. Prices as shown do not include excise tax.



Top row, left to right — Telechron 3H99, Sentinel SST-6, Sessions 453D.

Bottom row, left to right — General Electric 3H06, Sentinel SK 135.

### Electric Kitchen and Mantel Clocks

#### B. Intermediate

*Telechron, Model 3H99* (Warren Telechron Co., Ashland, Mass.) \$8. Plastic and metal case. *Telechron* motor; noise, negligible. Protection against dust, good. Telltale,  $\frac{1}{4}$  in. red dot, well placed. Numbers, blue on gold, judged of medium legibility at a distance. No minute markings. **2**

*General Electric, Model 3H06* (General Electric Co., Ashland, Mass.) \$14.50. Wood case. *Telechron* motor; noise, negligible. Protection against dust, good. Tell-

tale, 1/4-in. red dot, well placed. No minute markings. 3

\* \* \*

*Sentinel, Model SK 135* (The E. Ingraham Co., Bristol, Conn.) \$3. Kitchen wall clock. Die-cast metal case. Ingraham motor with sealed gears, but without telltale. Noise, negligible. Protection against dust, good. 1

### C. Not Recommended

*Sessions, Model 453D* (The Sessions Clock Co., Forestville, Conn.) \$6.55. Wood case. No telltale. Motor was of open construction, but protection against dust considered good. Noise, negligible. Rubber connecting cord was stiff and cracked (over-age, apparently), exposed bare wires. No minute markings. 2

*Sentinel Montclair, Model SST-6* (The E. Ingraham Co.) \$25. Wood case. No telltale. Ingraham motor with sealed gears. Noise, considered excessive. Protection against dust, poor. Clapper made excessive noise after sounding gong. 3

## Electric Alarm Clocks

### A. Recommended

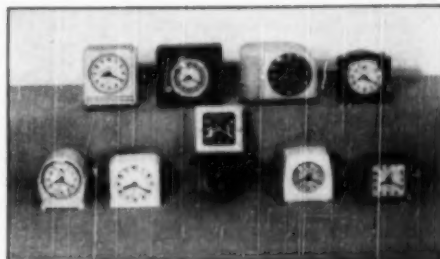
*Seth Thomas, Model Echo-3E* (Seth Thomas Clocks, Thomaston, Conn.) \$9. Wood case. General Time Instruments motor; negligible noise. Protection against dust, good. Telltale, 1/4-in. red dot, well placed. Alarm sound, continuous bell of medium loudness. 3

### B. Intermediate

*Hammond Modern Firefly, Model 302* (Hammond Instrument Co., 4200 W. Diversey Ave., Chicago 39) \$5. Plastic case. Open motor; noise, faint. Protection against dust, fairly good. Clock stops with current interruption, good feature. Alarm, buzzing sound of medium loudness. Might not awaken sleeper unless clock close by. No telltale. Clock was equipped with small flashlight-type 2.5-volt bulb which could be turned on to illuminate clock face when desired. 2

*Telechron, Model 7H137* (Warren Telechron Inc., Ashland, Mass.) \$4. Plastic cabinet. No telltale device. Telechron motor; negligible noise. Protection against dust, fair. Alarm, buzzing sound of medium loudness. No minute markings; 1/4-hr. alarm-set markings readily mistaken for minute markings. 2

*Telechron "Pinwall," Model 7-H-147* (Warren Telechron Inc.) \$4. Plastic case. No telltale device. Telechron motor; negligible noise. Protection against dust, good.



Top row, left to right — Hammond 302, Seth Thomas Echo-3E, Westclox S5-J, Sentinel SA19.

Bottom row, left to right — Sentinel SA14, Westclox S7-E, Telechron 7-H-147, General Electric 7H180, Telechron 7H137.

Alarm, buzzing sound of medium loudness. No minute markings; 1/4-hr. alarm-set markings readily mistaken for minute markings. 2

*Westclox Mambeam, Model S5-J* (General Time Instruments Corp., LaSalle, Ill.) \$11. Plastic case. General Time Instruments motor; negligible noise. Protection against dust, fair. Telltale, 1/4-in. dot, difficult to see. Alarm, blinking light followed by mild continuous buzz. 3

### C. Not Recommended

*Sentinel, Model SA14* (The E. Ingraham Co., Bristol, Conn.) \$2.88. Die-cast metal case. No telltale. Ingraham motor; noise considered excessive. Protection against dust, fairly good. Alarm, series of chime notes. 1

*General Electric, Model 7H180* (General Electric Co., Ashland, Mass.) \$4. Plastic case. No telltale. Telechron motor; slight noise. Protection against dust, fair. Alarm, buzzing sound of medium loudness. No minute markings; 1/4-hr. alarm-set markings readily mistaken for minute markings. Unduly short connecting cord. 2

*Westclox Bantam, Model S7-E* (Westclox, Div. of General Time Instruments Corp.) \$4. Plastic case. No telltale. General Time Instruments motor; considered rather noisy. Protection against dust, fair. Alarm sound, steady ring of not unpleasant quality. 2

*Sentinel Brewster, Model SA19* (The E. Ingraham Co.) \$8. Wood case. No telltale. Ingraham motor, which created excessive amount of noise. Protection against dust, fairly good. Alarm sound, series of repeated chime chords of low intensity. 3

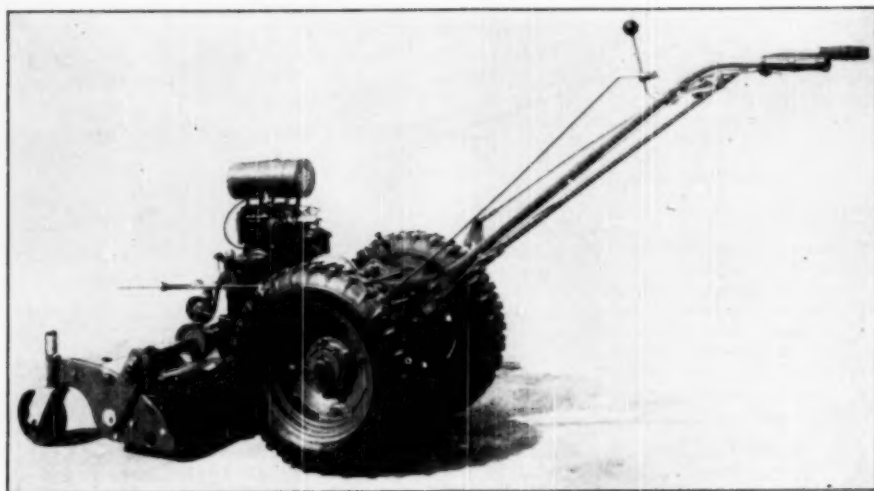
## Colleges and Universities — and Other Private-Research and Educational Institutions — Need to Be Free from Governmental Domination

"When private enterprise fades out of higher education in America, freedom, as we value it, will fade with it. We cannot permit ourselves ever to drift into a system of thought-control by which government, no matter how high-minded its officials, does all our educational thinking for us. We must maintain our private colleges and universities

as islands of independence, not accountable to political authority but accountable rather to their own concepts of public welfare and their own non-political constituencies."

—Harold W. Dodds, Pres., Princeton University  
*The Liberal Arts—A Challenge to Communism*  
Assn. of American Colleges Bulletin, August '49





*Hoe-Trac with lawn mower attached*

## Garden Tractor

### A. Recommended

*Ward's Hoe-Trac* (Montgomery Ward's Cat. No. 87-5475) \$152.50, plus freight. Cat. No. 87-5454 in 1950 Spring and Summer Catalog at \$147.50, plus freight, appears to be essentially the same. Powered by Clinton 700 Series, 4-cycle engine;  $1\frac{1}{2}$  hp. at 2800 rpm.; 4 speeds obtained by adjustments of V belt and pulleys from 1 to  $5\frac{1}{2}$  m.p.h. Clutch, slipping belt type. Equipped with 4.00 x 12 tires. Tread width adjustable from 15 to  $22\frac{1}{2}$  in. A well built tractor which was found to have ample power to operate a 24-in. lawn mower while pulling operator on sulky.

### Accessories for the Hoe-Trac

Note: *Hoe-Trac* accessories not listed, such as the plow, cultivator, and harrow, have not been tested by CR.

### A. Recommended (tentative)

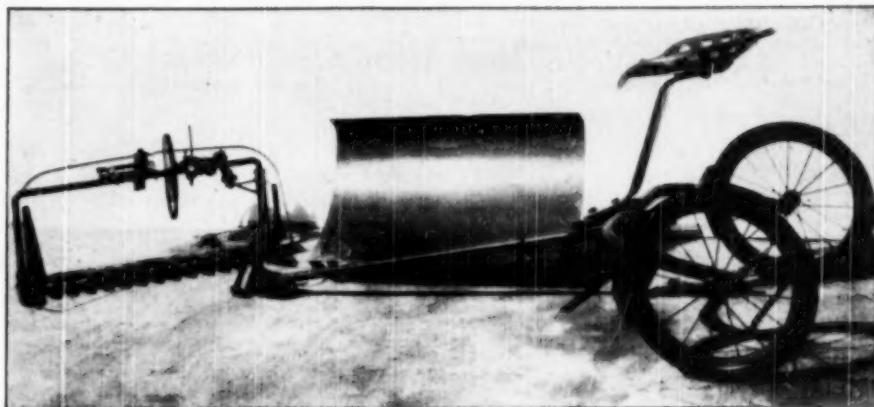
*Lawn Mower* (Montgomery Ward's Cat. No. 87-5308-R) \$59.95, plus freight. Width of cut, 24 in. Height of cut adjustable from  $\frac{3}{4}$  in. to 3 in. Mower countershaft driven by V belt from motor. Reel driven by chain, with built-in safety device to prevent damage if reel jams from picking up of a foreign object. Did a good

job of cutting grass at speeds up to  $2\frac{1}{2}$  m.p.h. (satisfactory), but at higher speeds there was some tendency to skip and leave ridges of uncut grass. The equipment, without sulky, was very maneuverable in relatively small spaces, and was easily attached to tractor.

### B. Intermediate

*Sulky* (Montgomery Ward's Cat. No. 87-5353R) \$25.50, plus freight. Spring-mounted steel seat. Wheels equipped with 16 x 1.75 semi-pneumatic tires and foot brakes. Turning radius of the mower when equipped with sulky, about 18 ft., too large to maneuver easily even on fairly large lawns. If designed or changed to provide a much smaller turning radius would be satisfactory for large lawns (the sulky would be of no value at all on small lawns).

*Snow Plough* (Montgomery Ward's Cat. No. 87-5457) \$16.75. Blade, 30 in. wide, 16 in. high. For most efficient use, chains would be needed on tractor wheels to provide good traction, with deep or heavy snow. Was found to perform satisfactorily on test with snow and slush about 6 in. deep and should be useful for snow removal from walks and drives around the home, or wherever the amount of snow to be handled or other conditions such as ill health or weakness would warrant the expense. (A winter of relatively light snows did not afford an opportunity for adequate tests of the snow plow.)



Sickle Bar Mower, Snow-Plough, and Riding Sulky for Hoe-Trac.

### C. Not Recommended

*Sickle Bar* (Montgomery Ward's Cat. No. 87-5384R) \$49.75, plus freight. Width of cut, 30 in. Satisfactory in fairly short grass and weeds 12 to 18 in. high, and for

this would be rated *B. Intermediate*. In taller grass and weeds, grass quickly piled up in front of machine and caused clogging. Design would be greatly improved if sickle bar were offset to one side as in regular farmers' mowing machines.

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## Floor Seals

**R**EFINISHING the floors of a home or applying a new finish is a task that requires time and effort, and may often be expensive. Nevertheless the satisfaction obtained from a beautifully finished floor that is easily maintained justifies the effort and disruption of household routines involved while the floor surfaces are being renewed.

Regardless of the type of finishing material chosen, particular attention should be paid to the preparation of the surface to be refinished and the application of the coating. A great many failures in finishing of floors can be traced to working on a surface that was not free from dirt and traces of the old finish, or which had rough uneven spots due either to a poor job of sanding, or failure to apply a thin, even coat of the finishing material.

The finishes most commonly used on wood floors are shellac, varnish, and "floor seals." The results of a study made at the Rhode Island Agricultural Experiment Station<sup>1</sup> indicated that the use of a floor seal gave fully satisfactory results with less expenditure of time and effort than was required for the other finishes. The manufacturers of some floor seals claim that they are "penetrating." Preliminary tests indicate that any penetration of wood fibers that occurs is very shallow, probably not over a tenth millimeter, so that in the ordinary sense of the word, as it would be understood by the consumer, it is somewhat misleading to refer to floor seals as "penetrating." They are, however, intended to give a coating with a minimum tendency to chip and scratch, that will become an integral part of the surface, and that will fill in and level minor surface irregularities. It is generally recommended that the floor, after finishing with the seal, be protected and maintained with a wax coating.

The 13 brands of floor seals included in CR's study

were subjected to tests that included determinations of their relative resistance to water, alkali, and abrasive wear, a measurement of hardness, and determination of the amount of fixed oils and resins. Other tests, suggested in Federal Specification TT-S-176a. Sealer, Floor; Varnish-Type (For Wood and Cork), were made, including a Kauri reduction test used as a measure of toughness and elasticity, the time required to set to touch and dry hard, and a determination of the flash point to give an indication of the hazard of fire in handling. (Only one of the seals, *Fabulon*, was found to have a flash point below the acceptable minimum of 86°F. The value for *Fabulon* was below 60°.) The results of the tests indicated that the samples tested were not at all closely alike in their characteristics.

Care should be taken to dispose of rags or other combustible materials used in the application of floor seals, immediately after work has been completed, in a safe place, where no fire could possibly be caused. Rags carrying residues of paint, varnish, paint oils, and related materials very often will ignite spontaneously.

Prices given in the listings are those paid at the time the samples were purchased.

### A. Recommended

*Johnson's Penetrating Floor Sealer* (S. C. Johnson & Son, Inc., Carnu St., Racine, Wis.) \$3.85 per gal. Fixed oils and resins, 41%, good. Drying time, satisfactory. Hardness, average. Toughness by Kauri reduction test, good. Water resistance, above average. Resistance to alkali, average. Abrasion resistance, very good. **2**

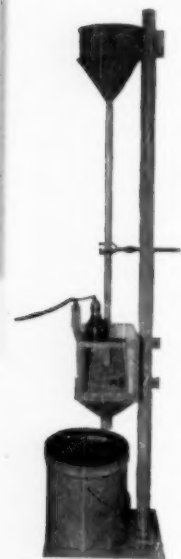
*Master-Mixed Wood-Seal* (Sears-Roebuck's Cat. No. 30-02740) \$3.95 per gal., plus postage; in current catalog, \$3.18 per gal., plus postage. Fixed oils and resins, 39%, fairly good. Drying time, satisfactory. Hardness, average. Toughness, good. Water and alkali resistance, average. Abrasion resistance, very good. **2**

*Lignophol* (L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16) \$2.35 per qt. Fixed oils and resins, 35%, fair. Drying time, satisfactory. Hardness, average. Toughness, very good. Water resistance, above average. Resistance to alkali, average. Abrasion resistance, good. **3**

### B. Intermediate

*Moore's Hard Drying Floor Finish* (Benjamin Moore & Co., 509 Canal St., New York City) \$1 per qt. Fixed oils and resins, 44%, good. Drying time, satisfactory. Hardness, average. Toughness, poor. Water and

<sup>1</sup>"Home Floors in Rhode Island," by Blanche M. Kuschke.



Courtesy Henry A. Gardner Laboratory, Inc.

*Gardner Abrasion Tester, similar to that used in study of floor seals.*

alkali resistance, below average. Abrasion resistance, good. 1

*Pittsburgh Waterspar Varnish Floor Seal No. 83-130* (Pittsburgh Plate Glass Co., 2207 Grant Bldg., Pittsburgh 19, Pa.) \$4.25 per gal. Fixed oils and resins, 44%, good. Drying time, satisfactory. Hardness, average. Toughness, good. Water and alkali resistance, average. Abrasion resistance, fair. 2

*Sapolin Wood Sealer No. 194* (Sapolin Co., Inc., 229 E. 42 St., N.Y.C.) \$3.85 per gal. Fixed oils and resins, 41%, good. Drying time, short (slightly below acceptable minimum for floor seals). (Floor seals which dry too quickly are difficult to apply evenly because laps will show.) Hardness, average. Toughness, poor. Water resistance, above average. Resistance to alkali, average. Abrasion resistance, good. 2

*Sherwin-Williams Floor-Seal No. 02176* (Sherwin-Williams Co., 101 Prospect Ave., N.W., Cleveland) \$1.35 per qt. Fixed oils and resins, 36%, fair. Drying time, short (slightly below acceptable minimum). Hardness, above average. Toughness, fair. Water resistance, average. Resistance to alkali, best of samples tested. Abrasion resistance, fair. 2

*Vita-Var Penetrating Floor Sealer and Wood Finish No. 991* (Vita-Var Corp., 48 Albert Ave., Newark, N. J.) \$1.35 per qt. Fixed oils and resins, 35%, fair. Drying time, satisfactory. Hardness, above average. Toughness, poor. Water resistance, below average. Resistance to alkali, average. Abrasion resistance, fair. 2

### C. Not Recommended

*Vitra Seal* (Vitra Seal Co., Inc., Summit, N. J.) \$3.50

per gal. Fixed oils and resins, 34%, fair. Drying time, short (below acceptable minimum). Hardness, above average. Toughness, very good. Water resistance, above average. Resistance to alkali, below average. Abrasion resistance, relatively poor. 1

*Ward's Penetrating Wood Sealer* (Montgomery Ward's Cat. No. 75-1700) \$1.19 per qt., plus postage. (Not listed in most recent catalog.) Fixed oils and resins, 46%, good. Drying time, long (above acceptable maximum). Did not become hard on glass plate in 2 weeks; hardness, very low. Toughness, good. Water resistance, average. Resistance to alkali, below average. Abrasion resistance, poor. 2

*Wilco Seal* (Wilson-Imperial Co., 119 Chestnut St., Newark 5, N. J.) \$3.98 per gal. Fixed oils and resins, 51%, highest of those tested. Drying time, somewhat short. Hardness, above average. Toughness, poor. Water resistance, below average. Resistance to alkali, average. Abrasion resistance, poor. 2

*Fabulon* (Pierce & Stevens, Swing St., Buffalo 3) \$6 per gal. Fixed oils and resins, 25%, lowest of those tested. Drying time, very short (below acceptable minimum). Hardness, above average. Toughness, poor. Water resistance, below average. Resistance to alkali, average. Abrasion resistance, poor. Flash point, below acceptable minimum. 3

*McCloskey Tungseal* (McCloskey Varnish Co., 7600 State Rd., Philadelphia) \$2.35 per qt. Fixed oils and resins, 30%, fair. Drying time, satisfactory. Hardness, average. Toughness, fair. Water resistance, above average. Resistance to alkali, below average. Abrasion resistance, poor. 3

## A Tape Recorder

THE report for CR on the *Crestwood Magictape Recorder* was not received in time to be included in the article on tape recorders which appeared in the January 1950 CONSUMERS' RESEARCH BULLETIN. For a discussion of the various characteristics of tape recorders and the performance of which they are capable, interested readers should refer to the January article (2½ pages, 8 listings [one wire]).

### B. Intermediate

*Crestwood Magictape Recorder* (Crestwood Recording Corp., Chicago) \$169.50. A-c operation only. Tape speed, 7½ in. per second. Rewind time for ½ hr. of 7½ in.-per-second tape, 1 minute 20 seconds, satisfac-

torily fast. Considered easy to thread. Frequency response, ± 2 db. from 75 to 5000 cycles per second. Equipped with self-contained amplifier (which was the limiting factor in quality of output from recorder): 6 in. x 8 in. oval speaker. Frequency response was smoother than that of *Webster Ekotape* reported in January 1950 Bulletin. Signal-to-noise ratio, 38 db. (about the same as on vinyl 78 rpm. records); noise present was of high, thin quality and not considered unpleasant. The audio quality available from the *Magictape* would justify use of its external connection to "phono" or "TV" jack on a moderately good (not high-fidelity grade) console radio-phono combination. *Magictape* considered the best recorder tested under \$250 and was almost in a class with the much more expensive *Webster Ekotape*. 2

## Television Antennas

**T**HE CHOICE of the most suitable antenna for use with a television receiver depends on the location of the receiver with respect to the transmitting station. Receiving locations may be classified in three main groupings as metropolitan, or close to the transmitter; suburban, at distances of 10 to 25 miles; and "fringe areas," at distances of 30 and more miles. The antenna problem in each of these locations is quite different from that encountered in the others.

### Metropolitan Areas

In metropolitan or close-in areas, the signal strength over the roof tops is in general very high. There is also a fairly high level of "electrical noise," which, if present in amounts comparable to the signal, will produce interference that impairs the picture quality and will sometimes be heard on the sound channel as well.

The very high signal level over the roof tops finds its way by reflection and refraction down to street level and to lower floors of apartment buildings. In this process, the signals are greatly weakened in relation to the interference, so that the electrical noise becomes much more serious.

The television antenna problem in multiple dwellings involves many other than purely engineering considerations. Systems have been devised and are in use in which several good antennas are placed on the roof of an apartment or hotel and then a special distribution system, either with or without an amplifying system, is used to supply signals to a large number of different apartments. One such system is the *RCA Antennaplex*. Systems of this type are purchased by the owners of the apartment buildings. For metropolitan areas then, and for apartment buildings, a good roof-top antenna is recommended. In situations where the transmission line lead-in is less than 100 feet long, the rather expensive coaxial cable, at about 6 cents per foot, from mail-order radio dealers, will cut down noise pickup. Where a roof-top location cannot be used, various types of indoor installations may be satisfactory. In this case, the best practice for most will be to entrust the installation to a competent serviceman. *There is no substitute for the backlog of specialized experience of the better serviceman, especially one who has been in the television field from its beginnings in the particular area.*

For good over-all results on all available TV channels, certain installations utilize as many as five different indoor antennas, all concealed, with leads connected through a multipoint switch to the

receiver. For example, a certain indoor antenna location might yield an excellent signal for channel 2 and give a poor signal for channel 4. Another antenna or several more may therefore be needed for good all-channel operation.



**Folded Dipole with Reflector**—Sensitivity is good. Units stack well and may be superior mechanically.



**Separate Folded Dipoles for Low and High Bands with Single Reflector**—Sensitivity is good with single transmission line, excellent with two separate lines and a switch (double pole—double throw). This array has given good service but does not lend itself well to stacking, for fringe-area reception.



**Single Bay Conical Antenna**—Sensitivity is excellent. Stacks well, but stresses caused by the wind are relatively large, hence antenna must be well made.



### **Built-In Antennas**

A number of manufacturers including Philco, Crosley, and Zenith are now marketing their TV receivers with "built-in" antennas. The very great convenience of installation with such a device is thoroughly recognized, but a purchaser of one of these sets is not assured of good all-channel performance, largely because there is usually no one position in a room where a strong signal is present on each channel, and it would not, of course, be feasible to move the set around the room when changing to another channel.

If one contemplates using a roof-top antenna, particularly in metropolitan locations, the antenna (or a test antenna) should be tried in the proposed place before a definite spot for the antenna is decided upon. Very often, a small difference in position of only two or three feet can make a considerable difference in signal strength, owing to standing waves in space.

### **Suburban Areas**

The suburban area, covering a region of 10 to 25 miles from the broadcasting center, offers a wide variety of conditions. In general, it is characterized by decreasing signal strength, but this is often accompanied by a corresponding decrease in electrical noise as we leave the area of elevators, street cars, neon signs, etc. An exception to this may occur along main highways where automobile ignition interference can be troublesome.

Where distance is not too great, a good indoor antenna may be all that is required. In any case, one of the usual outdoor antennas should give all the signal necessary for good viewing; the type of antenna successfully used by your neighbors will probably give good results in your location. The antenna should be of good mechanical design and construction, and should be installed properly so that it will not blow down with the first high wind (especially important in districts rather far out where considerable height may be necessary for good reception).

### **Fringe Areas**

In very flat country, TV signal strength increases directly with the height of the antenna. For these areas, a tall tower supporting an antenna of the usual type is the best means at hand to provide good reception of the relatively weak signals. In hilly country or terrain broken by many buildings and trees, increasing height is not as effective, unless the antenna is raised above the interfering objects. Since tall masts or towers are very expensive, a better over-all result may actually be obtained by a moderately high tower, together with the use of "multiple-stacked arrays."

CR has received several letters from subscribers requesting advice as to the "best" antenna to use

in areas which are considerably removed from the TV transmitting station (75 or more miles). While it is true that reception may at times be attained in many areas at great distances, the choice of a particular type of antenna to use is only one of several factors which *must* be considered under these conditions. To give a dependable answer, it would be necessary for an engineer to visit the location with proper measuring and test equipment which, of course, is often not feasible or may be prohibitively expensive in a given case.

### **Mechanical and General Considerations**

A television antenna is a unit, usually supported by a single mast, at some height above the ground. The larger and more complicated it is the greater the forces of wind and ice to which it is subjected. Where complicated antennas are used, very great care must be exercised in the mechanical design and construction.

Although a great many manufacturers have entered the field, relatively few different designs of antennas have found practical acceptance. The differences between the products of different manufacturers therefore are likely to be chiefly in mechanical strength as compared to wind resistance. To save weight, thin aluminum tubing is generally used for the various elements and frequently for the supporting mast. The mechanical means for connecting these elements calls for careful and skilled design, as it is most important to avoid crushing, bending, and buckling under stresses of perching birds, ice deposits, and wind. Some manufacturers have found it desirable to fill up the tube element with a wooden plug at the point of connection to the holding bracket.

Most television installations are made by dealers on a flat fee basis. Under this condition, there is a real danger that the dealer may take advantage of the purchaser by using the cheapest antenna he can find, so as to increase his profit. The actual unit cost (not counting installation) of excellently made antennas is only a small amount more than that of poorly made and skimpy ones.

Several years of general television usage have indicated that three types are the most popular. Each of these is manufactured by several companies; differences are to be found in the quality of materials, workmanship, and mechanical design.

These three types are illustrated on page 24. There are, of course, a number of other kinds, but, as far as is known at the present time, none of these yield noticeably superior results. There are types with rather complicated circular and triangular members in which the main object is apparently to increase the eye appeal and to persuade the prospective buyer that the designer had special and unique knowledge of the nature of propagation of high-frequency electrical waves.

Some of these trick designs may work as well as the standard types, but they are rather likely to have increased weight and wind resistance without any corresponding advantages.

Any outdoor antenna, especially one installed in a suburban or country location, should be properly grounded against lightning hazard. Heavy copper wire from the base of the mast to a good ground connection, such as a pipe driven 6 to 8 feet into the earth, is usually satisfactory. Insurance underwriters do not look with favor on the practice of some servicemen of grounding the mast to the vent stack on the roof or to a drain spout. Besides the grounding of the mast, a lightning arrester should be used on the lead-in itself at the point where it enters the house, and this arrester should be grounded in a way similar to that used for the mast.

### A. Recommended

*Amphenol, Models 114-005 and 114-302* (American Phenolic Corp., 1830 S. 54 Ave., Chicago 50) \$19.50 and \$35. Electrical performance, very good. Mechanical construction, excellent. The *Model 114-302* (2-bay) is recommended particularly for use in fringe areas where a tall mast may be needed.

*JFD, Models TA 160, TA 161, and TA 162* (JFD Mfg. Co., Inc., 6101 16 Ave., Brooklyn 4, N. Y.) \$14, \$29, and \$31. Electrical performance, excellent. Mechanical construction, good.

### B. Intermediate

*TACO, Model E 513* (Technical Appliance Corp., 41-06 De Long St., Flushing, L. I., N. Y.) \$9. Electrical performance, excellent. Mechanical construction judged not as good as would be desirable. Insulator element, too thin; riveted construction tends to loosen.

## Small Extinguishers Not as They Are Painted

**S**MALL fire extinguishers for home use, containing methyl bromide as the active agent, appear to have been on sale as recently as a year ago and are probably still being offered. Some manufacturers have not taken advantage of the excellent and reliable information that has been made available through technical journals and elsewhere on methyl bromide and its hazards. One extinguisher purchased by Consumers' Research carried the warning: "Toxic — Contains Methyl Bromide. AVOID EXPOSURE TO SMOKE AND FUMES." This seems to be an entirely inadequate warning, for such an extinguisher is not considered suitable at all for consumer use. The consumer had best not buy any extra-small fire extinguisher of any brand unless he is afforded in writing or in print, preferably on the extinguisher itself, the information that it does not contain methyl bromide as the active fire-extinguishing substance, and that it is approved (listed) by the Underwriters' Labs.

Consumers in general should not buy or use any sort of fire extinguisher that lacks the approval of the Underwriters' Laboratories (or the Associated Factory Mutual Fire Insurance Companies). Methyl bromide hand extinguishers are not recognized or approved by either organization. Methyl bromide gas is so poisonous that chemical laboratory workers are advised to exercise great caution to avoid breathing it, and the analyst working with the substance should be provided with a canister-type respirator. Even the very much less toxic chlorobromomethane now coming into use in very small extinguishers is considered to involve danger to life in any case where the extinguisher may be used in a small room, closet, or confined space.

Government officials of one big city did not until recently get around to forbidding the sale of methyl bromide extinguishers because they did not feel that cases had been established where ultimate consumers have been poisoned or killed by the use of a small-size fire extinguisher containing methyl bromide. The government agency in question appeared to take the position that fatalities that occurred with the gas, and with such an extinguisher in a foreign country were not of governing importance in the case of extinguishers offered for sale in the United States. They did, however, prohibit the stocking, selling, or offering for sale in their city fire extinguishers containing more than 100 grams (about 3.5 ounces) of methyl bromide. They also required that any methyl bromide fire extinguisher bear the wording: "WARNING - POISON CONTAINS METHYL BROMIDE A DANGEROUSLY POISONOUS GAS." A warning gas or vapor should by all means be used, so that if any leakage from the extinguisher should occur persons in the vicinity would be put on notice that something was wrong. (Residents or visitors in a house or hotel room equipped with methyl-bromide-filled extinguishers might easily fail to draw the conclusion that a fire extinguisher was the cause of the odor, and the protection furnished by the warning gas would therefore at best be a pretty uncertain one.)

Readers who are interested in the hazards which may affect consumers through manufacturers' (and dealers') failure to use technical expert services for study of the materials, appliances, and other articles with which they deal as manufacturers or distributors will find it worth while to read the article in CR's BULLETIN of August 1948.

# RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

*Box Office, Charm, Chicago Daily Tribune, Cne, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Motion Picture Herald, National Legion of Decency List, Newweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Premier Committee, Successful Farming, Time, Variety (weekly), Weekly Guide to Selected Motion Pictures (National Board of Review of Motion Pictures, Inc.), and Unbiased Opinions of Current Motion Pictures* which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

ad—adventure  
biog—biography  
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)  
car—cartoon  
com—comedy  
cri—crime and capture of criminals  
doc—documentary  
dr—drama  
fan—fantasy  
hist—founded on historical incident  
mel—melodrama  
mus—musical  
mys—mystery  
nov—dramatization of a novel  
rom—romance  
soc—social-problem drama  
trav—travelogue  
war—dealing with the lives of people in wartime  
wes—western

A	B	C		
—	6	9	Abandoned (Woman)	... soc-dr A
—	5	1	Adam and Evalyn	... dr A
3	7	5	Adam's Rib	... com A
1	4	2	Affair Blum, The	... dr A
—	4	4	Alias the Champ	... com A
7	6	5	All the King's Men	... soc-dr A
—	11	3	Always Leave Them Laughing	... com A
—	6	2	Amazing Mr. Beecham, The	... com A
—	10	3	Ambush	... wes AYC
—	2	11	And Baby Makes Three	... com A
—	3	2	Angels in Disguise	... cri-mel A
—	2	3	Angels of the Streets	... dr A
—	—	3	Anna of Rhodes	... mus-dr A
—	—	5	Apache Chief	... mel A
—	7	8	Astonished Heart, The	... dr A
—	5	5	Backfire	... mel A
—	2	6	Bagdad	... adv-c A
—	4	1	Baron of Arizona, The	... hist-mel A
—	3	5	Barricade	... cri-mel-c A
1	2	2	Battle of the Rails, The	... war-dr A
—	2	5	Belle of Old Mexico	... mus-com-c A
—	8	2	Bells of Coronado	... mus-wes-c AYC
—	3	—	Between Eleven and Midnight	... mys-mel A
—	2	12	Beyond the Forest	... dr A
2	7	5	Bicycle Thief, The	... dr A
1	2	1	Big Hangover, The	... com A
—	8	5	Big Wheel, The	... mel A
1	8	5	Black Hand, The	... cri-mel A
—	2	3	Black Midnight	... wes AYC
—	6	4	Blonde Bandit, The	... cri-mel A
—	1	4	Blonde Dynamite	... mel A
—	5	1	Blondie's Hero	... com AYC

A	B	C		
3	5	—	Blue Grass of Kentucky	... dr-c AYC
—	4	7	Bodyhold	... dr A
—	6	2	Bomba on Panther Island	... mel AYC
—	6	5	Borderline	... cri-mel A
—	9	7	Bride for Sale	... com A
—	5	9	Buccaneer's Girl	... mus-mel-c A
—	1	2	Call of the Forest	... dr AYC
—	3	4	Captain Carey, U.S.A.	... war-mel A
—	5	9	Captain China	... mel A
—	2	2	Catskill Honeymoon	... mus-com A
2	11	3	Chain Lightning	... mel A
—	6	3	Challenge to Lassie	... dr-c AYC
—	5	1	Champagne for Caesar	... com A
—	1	3	Child of Man	... dr A
—	5	2	Children, The	... dr AYC
—	6	5	Chinatown at Midnight	... cri-mel A
9	9	—	Cinderella	... mus-car-c AYC
—	6	4	Conspirator, The	... mys-mel A
—	1	3	Counter Investigation	... mel A
—	4	1	Cowboy and the Indians, The	... mus-wes-c AYC
—	5	—	Cowboy and the Prize-fighter, The	... wes-c AYC
—	4	—	Cowtown	... mus-wes AYC
—	1	6	Cry Murder	... cri-mel A
—	5	7	Dakota Lil	... mus-wes-c A
—	1	5	Dalton Gang, The	... wes A
3	10	1	Dancing in the Dark	... mus-com-c A
—	1	8	Dangerous Profession, A	... cri-dr A
—	3	5	Davy Crockett, Indian Scout	... wes AYC
—	5	6	Deadly is the Female	... cri-mel A
—	11	3	Dear Wife	... com A
—	1	4	D.O.A.	... cri-mel A
—	2	4	Dream No More	... doc-dr A
—	3	3	Dynamite Pass	... wes AYC
—	5	3	Eagle and the Hawk, The	... hist-mel-c A
—	2	1	East of Java	... mel A
—	7	8	East Side, West Side	... dr A
—	8	3	Facts of Love, The	... com A
1	10	2	Fame is the Spur	... dr A
—	1	2	Fantastic Night	... fan A
—	4	8	Father is a Bachelor	... dr A
—	2	2	Federal Agent at Large	... mus-mel AY
—	1	4	Feudin' Rhythm	... mus-wes A
—	4	3	Fighting Redhead, The	... wes-c AYC
—	1	5	First Front, The	... war-dr A
—	8	—	Flame of Youth	... mel A
—	1	7	Flying Saucer, The	... mys-mel A
—	1	10	Francis	... com AYC
—	5	6	Free for All	... com AYC
—	2	1	Frontier Outpost	... wes AYC
—	1	2	Gates of the Night	... war-mel A
—	3	4	Gay Lady, The	... mus-com-c A
—	3	3	Gigi	... dr A
—	4	2	Girl from San Lorenzo, The	... wes AYC
—	2	9	Girls' School	... dr AYC
—	7	7	Give Us This Day	... dr A
—	9	—	Glass Mountain, The	... mus-dr A
—	3	—	God, Man, and Devil	... dr A
—	7	1	Golden Stallion, The	... mus-wes-c AYC
—	1	5	Great Plane Robbery, The	... cri-mel AYC
—	6	3	Great Rupert, The	... mus-dr AYC
—	5	1	Guilty Byatander	... mys-mel A
—	1	5	Guilty of Treason	... dr AYC
—	1	2	Gunmen of Abilene	... wes AYC
—	4	12	Hasty Heart, The	... war-dr AY
—	6	11	Helena, The	... dr A
—	1	3	Her Wonderful Lie	... mus-dr A
—	10	2	Hidden Room, The	... cri-mel A
—	—	3	Hoedown	... com AYC
1	11	1	Holiday Affair	... com AYC

A	B	C		
2	8	Holiday in Havana	mus-com-c A	
2	5	Hollywood Varieties	mus-com A	
4	4	Horsemen of the Sierras	wes AYC	
12	2	I Married a Communist	mel A	
3	5	I Was a Shoplifter	cri-dr A	
5	2	Il Trovatore	mus-mel A	
1	19	Inspector General, The	mus-com-c A	
3	7	Intruder in the Dust	soc-dr A	
2	5	It Happened in Europe	war-dr A	
2	3	Ivan Pavlov	biog A	
3	1	Jiggs and Maggie Out West	com AYC	
4	1	Joe Palooka Meets Humphrey	mel AYC	
7	1	Johnny Holiday	dr A	
1	5	Just a Big Simple Girl	com A	
1	4	Katrina	dr A	
7	7	Key to the City	com A	
4	5	Kid from Texas, The	wes-c A	
3	6	Kiss for Corliss, A	com A	
9	3	Lady Takes a Sailor, The	com A	
1	4	Laughing Lady, The	mus-dr-c A	
4	4	Lost Youth	cri-mel A	
4	1	Mafta	dr A	
1	10	Malaya	war-mel A	
10	5	Man on the Eiffel Tower, The	cri-mel-c A	
4	6	Mark of the Gorilla	mel AYC	
2	10	Mary Ryan, Detective	cri-mel A	
3	4	Master Minds	com A	
5	5	Merchant of Slaves	mel A	
2	2	Monelle	dr A	
8	3	Montana	mus-wes-c AYC	
8	5	Mother Didn't Tell Me	com A	
12	2	Mrs. Mike	dr A	
3	2	Mule Train	mus-wes-c AYC	
2	7	My Foolish Heart	soc-dr A	
4	4	Naked Woman, The	dr A	
1	8	Nancy Goes to Rio	mus-com-c A	
3	4	Navajo Trail Raiders	wes AYC	
10	4	Nevadan, The	wes-c AYC	
5	5	Never Fear	dr A	
4	2	No Man of Her Own	mel A	
1	4	No Room at the Inn	dr A	
3	3	O Sole Mio	mus-dr A	
2	14	On the Town	mus-com-c A	
4	8	Once Upon a Dream	com A	
5	1	Our Very Own	dr A	
10	5	Outriders, The	mel-c A	
5	3	Outside the Wall	cri-mel A	
2	1	Pagliacci	mus-dr A	
3	12	Paid in Full	dr A	
5	3	Palomino, The	wes-c AYC	
1	5	Peddler and the Lady, The	dr A	
3	4	Peddlin' in Society	dr A	
8	5	Perfect Strangers	cri-dr A	
4	14	Pinky	soc-dr A	
5	2	Pioneer Marshal	wes AYC	
4	4	Pirates of Capri, The	adr A	
2	3	Please Believe Me	com A	
8	5	Port of New York	cri-mel A	
1	2	Powder River Rustlers	wes AYC	
3	3	Prelude to Madness	dr A	
2	5	Project X	cri-mel A	
4	5	Quicksand	cri-dr A	
3	3	Radar Secret Service	mys-mel AYC	
1	3	Range Justice	wes AYC	
1	2	Range Land	wes AYC	
8	2	Ranger of Cherokee Strip	wes AYC	
5	9	Reckless Moment, The	mel A	
4	1	Red Desert	wes AYC	
4	1	Red Meadows	propaganda-dr A	
5	5	Reformer and the Redhead, The	com AYC	
1	5	Renegades of the Sage	wes AYC	
3	3	Return of the Black Eagle	mel A	
4	4	Riders in the Sky	mus-wes-c AYC	
4	4	Riders of the Dusk	wes AYC	
5	1	Riders of the Range	wes AYC	
3	6	Riding High	mus-com AYC	
3	4	Rigoletto	mus-dr A	
3	3	Rita	mel A	
3	3	Roaring Westward	wes AYC	

A	B	C		
2	2	Royal Affair, A	com A	
9	5	Rugged O'Riordana, The	dr A	
5	6	Samson and Delilah	dr-c A	
2	6	San Antonio Ambush	wes AYC	
3	6	Sands of Iwo Jima	war-dr A	
4	4	Sarumba	mus-com A	
2	2	Satan's Cradle	wes A	
1	2	Scandals of Clochemerle, The	com A	
1	2	Shadow on the Wall	mys-mel A	
2	2	Shamed	dr A	
7	5	Side Street	cri-mel A	
2	7	Silent Dust	war-dr A	
5	1	Singing Guns	mus-wes-c A	
2	3	Sons of New Mexico	mus-wes AYC	
5	10	South Sea Sinner	mel A	
5	5	Square Dance Jubilee	mus-wes AYC	
12	2	Square Fright	cri-mel A	
2	7	Stars in My Crown	dr AYC	
4	3	Storm Over Wyoming	wes AYC	
6	8	Story of Molly X, The	cri-mel A	
8	6	Story of Seabiscuit, The	dr-c AYC	
2	12	Stromboli	dr A	
3	3	Sundowners, The	wes-c A	
2	2	Tarnished	dr A	
3	2	Tarzan and the Slave Girl	adv AYC	
11	3	Tattooed Stranger, The	cri-mel AYC	
5	4	Tell It to the Judge	com A	
8	6	Tension	mys-mel A	
1	9	That Forsyte Woman	dr-c A	
6	8	Thelma Jordan	mel A	
4	4	There's a Girl in My Heart	mus-dr AYC	
2	13	They Live by Night	cri-dr A	
(previously reviewed as The Twisted Road, CR Bul. March 1949)				
9	5	Third Man, The	cri-mel A	
7	3	Threat, The	cri-mel A	
2	7	Three Came Home	war-dr A	
12	3	Tight Little Island	com A	
4	1	Titan, The	doc AYC	
7	8	Tokyo Joe	war-dr A	
2	2	Tomboi	dr A	
3	6	Tough Assignment	cri-mel AYC	
3	3	Trail of the Mounties	cri-mel AYC	
4	4	Trail's End	wes AYC	
7	3	Trapped	mys-mel AYC	
5	11	Traveling Saleswoman, The	mus-com A	
12	12	12 O'Clock High	war-dr A	
4	4	Twilight	dr A	
1	5	Tyrant of the Sea	mel A	
3	4	Under My Skin	dr A	
1	10	Under the Sun of Rome	war-dr A	
7	6	Undertow	cri-mel A	
5	5	Unmasked	cri-dr A	
4	4	Vautrin, the Thief	dr A	
4	2	Vicious Years, The	war-dr A	
1	2	Voice of Love, The	mus-dr A	
3	1	Walls of Malapaga, The	dr A	
4	4	West of El Dorado	mus-wes AYC	
2	1	West of Wyoming	wes AYC	
3	1	Western Pacific Agent	wes A	
2	3	Western Renegades	wes AYC	
5	7	When Willie Comes	war-com A	
2	2	Marching Home	mel A	
8	8	Whipped, The	dr A	
3	2	Whirlpool	dr AYC	
5	6	Winslow Boy, The	mel A	
1	4	Without Honor	soc-dr A	
5	5	Without Pity	mel AYC	
5	5	Wolf Hunters, The	dr A	
10	2	Woman in Hiding	com A	
6	6	Woman of Distinction, A	mel A	
6	6	Woman on Pier 13, The	com A	
6	3	see I Married a Communist	com AYC	
2	3	Young Cab Man, The	mel-c AYC	
5	5	Young Daniel Boone	war-dr A	
1	10	Young Guard	mus-dr A	
4	4	Young Man With a Horn	war-dr A	
1	8	YOUTH of Athens	adr AYC	



# The Consumers' Observation Post

(Continued from page 4)

plumbing equipment, if purchases of plumbing amount to \$20 or more. There is a deposit required which will be refunded on return of the tools. The man who is handy can make quite a saving by acting as his own plumber.

\* \* \*

AN OFF-FLAVOR IN FROZEN PEAS may be due to bruising of peas in the vine and undue delay before processing, according to a government study. The damaged tissues, by some chemical process not yet understood, develop an odor and flavor foreign to the product. It was noted that peas shelled carefully by hand did not develop the off-flavor, even when there was a delay of several hours before they were processed.

\* \* \*

FAMILY LIFE IS COMING BACK, according to a survey made by a group of businessmen in Washington, D. C., on what effect television was having on family habits. Of 400 families queried, the consensus was that both children and grownups went to the movies less frequently, spent less time reading books and magazines, attended fewer sports such as football and baseball games, and generally spent more of their free time at home.

\* \* \*

ASTHMA IN YOUNG PERSONS is commonly due to allergy, commented Dr. Francis M. Rackemann of Boston, in a medical society lecture. He ascribed the cause to environment, special sources of dust in furniture, bedding, rugs, cosmetics, or insecticides. One common cause is the pet dog or cat. Cat asthma, he reported, is a fairly common disease of young people. The cure is the removal of the offending substance or the removal of the patient from the substance that causes the difficulty.

\* \* \*

REPORTS OF ILL EFFECTS from the use of antihistamine drugs are beginning to appear. Dr. Truman G. Drake of St. Louis reported in the Journal of the American Medical Association details of a case of agranulocytosis (an acute disease of the blood characterized by a marked decrease in the white cells) following the use of an antihistamine drug. The patient was hospitalized for 19 days. Dr. Drake noted that this was the fifth case of untoward reaction from an antihistamine that had come to his attention and, while he believed



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such cases to be rare, he pointed out that they should be taken into an account in diagnosing an unexplained illness.

\* \* \*

TRACE ELEMENTS in the diet are being studied by the Armour Research Foundation of Illinois Institute of Technology in Chicago under a grant from the International Harvester Company. The need for research in the field was pointed up by the discovery that beef from certain animals did not measure up to the normal nutritional values. Scientists came to the conclusion that something was missing from the diet of the cattle, and now the hunt is on to find out just what the missing elements are.

\* \* \*

SUNTAN LOTIONS are not only effective in preventing an unpleasant, unsightly case of sunburn, but they can also prevent coarsening of the skin from burn, according to Walter Mueller writing in The American Perfumer. Mr. Mueller also points out that a good suntan lotion containing an effective sunscreen should also be used after a tan is acquired in order to preserve the tone of the skin and an even texture of the pigment.

\* \* \*

#### NEW PRODUCTS:

Caddy Tables (Block Co., 200 N. Jefferson St., Chicago 6), \$3, plus express charges. Decorated metal tray tops 12-3/4 x 17 inches, mounted on folding metal rod frame standing 21 inches high. These ingenious little tables are quite convenient for temporary use since they fold flat and may be easily stored in a closet. They are quite sturdy considering their lightness and small size, and have been found to render satisfactory service in actual use. They are sometimes available in local furniture and gift stores, but may be ordered direct. Express charges will add a sizable item to the purchase price for those who are some distance from Chicago.

Rainwraps (The Benton Thompson Co., Inc., 45 Spring St., Naugatuck, Conn.), \$2.95 per pair. Waterproof cotton, with non-skid rubber soles, in black, brown, navy, green, or plaids, with carrying case. The device wraps around the toe and instep and is fastened on by a strap around the ankle. It fits any type of shoe except wedgies. It affords adequate rain protection, but is somewhat bulky and cumbersome. Much more effective were open-heel toe rubbers made by B. F. Goodrich, selling for \$1.45. These rubbers differed from ordinary toe rubbers in that the strap had a shaped rim with two pieces set at right angles which fit the back. The upper piece rests snugly on the heel-seat of the shoe to anchor the rubber firmly in place so that it does not slip. The rubber is marked "Patent applied for."

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# PHONOGRAPH RECORDS

BY WALTER KURZENHOFER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

**Bach:** *Passacaglia and Fugue in C Minor* (3 sides) & *Sinfonia* (1 side). San Francisco Symphony Orchestra under Montoux. RCA Victor Set 1340. \$2.20. A famous, stirring work, generally played on the organ, which Respighi has orchestrated with taste. It is pure joy to hear the clarity of reproduction and the incisive performance.

**Interpretation AA**  
**Fidelity of Recording AA**

**Beethoven:** *Notturmo in D*. William Primrose (viola). 6 sides, RCA Victor Set WDM 1336. \$3.35. This may seem more familiar to you as the diverting *Serenade Trio for Violin, Viola and Violoncello* (Op. 8) available in the well played but oldish Columbia Set 217. Beethoven authorized the viola arrangement (though I prefer the color of the trio) here played by Primrose in Kreisler-like style. Good performance and recording but the pitch wavers now and then and the piano is too far away.

**Interpretation AA**  
**Fidelity of Recording A**

**Beethoven:** *Octet in E Flat* (Op. 103) & *Rondino in E Flat* (Grove 146). Members of the Little Orchestra Society under Scherman. (2 each: oboes, clarinets, horns, bassoons.) EMS LP 1. \$5.95 (9 E. 44 St., New York City). More evidence here — and elsewhere on this page — of the impetus LP's have given to the recording by small companies of works off the beaten path. First of the EMS line, an auspicious beginning. While no one will include these wind octets among Beethoven's masterpieces, possibly a thousand connoisseurs will buy this disk and enjoy it. The recording on quiet surfaces and the playing are distinctly first rate.

**Interpretation AA**  
**Fidelity of Recording AA**

**Beethoven:** *Sonata No. 7*. Szigeti (violin), Horszowski (piano). Columbia LP 2097. \$3.85. Robust, bravura work heard frequently in violin recitals. Exciting, musicianly performance that tops all competitors'. The realistic recording reveals Szigeti's rough tone. Some wavering of pitch.

**Interpretation AA**  
**Fidelity of Recording A**

**Borodin:** *Quartet No. 2 & Glazounov, Liadoff, Rimsky-Korsakoff: Jour de Fete*. Galimir Quartet. Period LP 505. \$5.95 (778 Tenth Ave., New York City). The quartet is a lovely lyrical work that appeals to nearly all who like strings. In the other work each composer contributes one movement, based on Russian Christmas carols. Neither work is available on any other domestic label. The Galimirs maintain a high standard of execution but should get more romance in the Borodin. The recording is close-in, wide range, somewhat shrill, with the first violin favored. Quiet, ruby-colored surfaces.

**Interpretation A**  
**Fidelity of Recording A**

**Haydn:** *Missa Solemnis in D Minor* ("Lord Nelson" Mass). Vienna Symphony Orchestra, Akademie Chorus, Vienna, and Soloists under Sternberg. Haydn Society LP 2004. \$5.95 (30 Huntington Ave., Boston). Haydn composed 12 Masses, of which this appears to be the only one recorded. It is a stirring, dramatic work of the highest caliber. The performance is commendable. The orchestra is well recorded, the soloists are too prominent at times and the chorus lacks roundness. Yet the recording is adequate. Some surface noise.

**Interpretation A**  
**Fidelity of Recording B**

**Hindemith:** *Sonata in D & Poulenc: Sonata*. Louis Kaufman (violin), Artur Balsam (piano). Capitol LP 8063. \$4.85. Record premieres of sonatas by living composers of which the Poulenc impresses me as much the richer. Kaufman, who champions many contemporary works, is thoroughly familiar with the idiom. So is his partner. Recording in

Hollywood style, a bit dry but so is Kaufman's tone in recital. A buzz here and there.

**Interpretation AA**  
**Fidelity of Recording A**

**Milhaud:** *Second Violin Concerto & Concertino de Printemps*. Louis Kaufman (violin) with the French Orchestre Nationale under the Composer & *Dances de Jacarémirim*. Kaufman (violin). Capitol LP 7081. \$4.85. There's a lot of Milhaud here for those who fancy contemporary French music. While the concerto offers depth and substance, the sprightly concertino is likely to open more doors to Milhaud's work. Brilliant performance. Recorded in Paris last October. The concertino sounds more realistic, less dry, than the concerto but there is no serious complaint on any account.

**Interpretation AA**  
**Fidelity of Recording A**

**Schoenberg:** *Serenade* (Op. 24). Septet and Baritone Voice under Mitropoulos. Esoteric LP 501. \$5.95 (75 Greenwich Ave., New York City). The first 12-tone work, not recorded heretofore, is imaginative, colorful, and strange — strictly connoisseur! Scored for clarinet, bass-clarinet, violin, viola, cello, guitar, mandolin, and baritone voice. Mitropoulos conducts a sound, idiomatic performance, obviously a labor of love. Close-in, clear, wide-range recording. Excellent surfaces.

**Interpretation AA**  
**Fidelity of Recording AA**

**Stravinsky:** *Mass*. Double Wind Quintet and Chorus of Men and Boys under the Composer. 6 sides, RCA Victor Set 1349. \$3.35. It's a long way from the Haydn Mass and not nearly so impressive, though the advance guard may find it arresting. Definitive performance and recording that is the acme of clarity, with everyone popping out of the speaker. But more depth would advance the illusion of realism.

**Interpretation AA**  
**Fidelity of Recording A**

**Tchaikovsky:** *Serenade in C Major* (5 sides) & *Mozart: The Impresario Overture* (1 side). Boston Symphony Orchestra under Koussevitzky. RCA Victor Set 1346. \$4.30. The *Serenade* reveals its warmth and glow anew even though, in spots, Koussevitzky overdramatizes. Clear Tanglewood recording.

**Interpretation A**  
**Fidelity of Recording AA**

**Tchaikovsky:** *Symphony No. 5*. Berlin Philharmonic Orchestra under Mengelberg. Capitol-Telefunken LP 8053. \$4.85. A masterpiece. This record competes with the Ormandy and Beecham sets but does not displace them. Mengelberg reads with spirit, detail, drama, and distortion. Moreover, he cuts the last movement. Smoothness and sufficient range in the recording though the highs are clipped.

**Interpretation A**  
**Fidelity of Recording A**

*Songs of Sigmund Romberg & Songs of Jerome Kern*. Rise Stevens (mezzo-soprano). Columbia LP 4270. \$4.85. "Wanting You," "One Alone," "They Didn't Believe Me," "Look for the Silver Lining," and seven other favorites. Miss Stevens sings them without cloying sentiment or condescension and with musical intelligence and rich voice. The orchestra is rather distant but in all other respects the disk is excellent.

**Interpretation AA**  
**Fidelity of Recording AA**

## RECOMMENDED SINGLE DISKS

**CAPITOL-TELEFUNKEN:** Vocal duets from Strauss' *Arabella* with Elsa Wieber, Marta Fuchs and Paul Schöffler on 6F-86002. **RCA VICTOR:** Boston Symphony plays Satie's *Gymnopédie* Nos. 1 and 2 on 49-0771 — Stokowski and His Orchestra play Schubert's *Tyrolean Dances* on 49-0814 — Boston Pops plays *Dance of the Hours* on 49-0676.

